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"Tota philosophia frugifera et fructuosa, nec ulla pars ejus inculta ac deserta sit."—Cicero.

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ORIGINAL COMMUNICATIONS.

ART. I.—*The Pathology of Passive Congestion, and its relation to Asiatic Cholera; An Inductive Research, read by special appointment before the Medical Society of South Carolina, May,* 1866: By WM. HUTSON FORD, M. D., Prof. Medical Chemistry, in the New Orleans School of Medicine, etc.

I.

NECESSITY OF OXYGEN TO ANIMAL LIFE.

"*Vetus sed verissima, et medicorum, et vulgi, est sententia, respirationem et vitam, pari ambulare passu.*"—HOFFMANN, *De Asthma, Convuls.*

IT is a prominent example of the co-ordinate harmony of creation, that in the universal development of life, the vegetable prepares the aërial pabulum of the animal, and the animal that of the vegetable. When in the early existence of our planet, the primordial atmosphere had been supplied with an amount of oxygen adequate to the sustenance of animal life, and a hurtful excess of carbonic acid had been withdrawn by the combined action of the vast forests of palms, ferns, and cycadeæ, which clothed the face of the newly emerged continents, it is probable that the first zooid was called into existence, as an offshoot from the vegetable kingdom. The advocates of special creation, may claim that this was effected by a distinct act of the creator, but the analogy of differentiative development constrains us to believe otherwise,

and, indeed, the origination of a new creature by gradual change, from a previously existent form, is as distinctly an act of creation as any sudden genesis, and in no wise more remarkable than the countless successions of changes since occurring and now in continual operation on our globe, in the progress of typical forms, of genera, species, varieties, and individuals. Whether both kingdoms therefore, of organized nature, sprang from distinct originals, or whether, as we prefer to believe with Darwin, the primary animal was an offset from some cell-like protophyte, or a divergent growth from a common stock, does not concern us further at the present time, than in the recognition of certain qualities common to both divisions of the living world.

For all attempts have failed to characterize the differences between the animal and the vegetable. There is no quality pertaining to one which is not found in the other likewise. Sometimes existing as a mere trace barely recognizable, each of these qualities is again extensively developed in other beings and constitutes the groundwork of most elaborate organizations. Neither structure, nor form, nor susceptibility to change under the agency of chemical force, nor cell contractility, nor mode of generation, suffices distinctly to divide the living world; nor can it be otherwise, if the origin of both has been from a common or nearly allied stock; and according to the great plan of developmental specialization, we should therefore expect to find the animal peculiarly qualified with certain more prominent endowments, latent in the vegetable world, or only manifested occasionally; and of these the most remarkable are, *chemical instability* of the animal textures and *contractility*—two qualities essentially dependent upon each other, and the very basis of animal existence.

It is upon a specialized endowment of animal life, contractility, uncontrolled in the simpler beings by nervous influence, but in the more highly developed, commanded and directed in its varied manifestations by the most intricate nervous combinations, that all the important functions of animal life, and through them of organic life, essentially depend. Upon muscular contraction are based the functions of locomotion, of the prehension of prey, of digestion, to a considerable extent, of the circulation of the nutrient fluid, and of the exposure of this fluid to the action of oxygen; such exposure nearly always requiring special muscular adapta-

tions, as for the movements of the gill-opercula, and propulsion of water through the branchial clefts, in fishes, etc., the dilatation and expansion of the respiratory case in air-breathing vertebrates, the amplification of the tracheal tree of insects, and the deglutition of air in reptiles. Muscular contractility, only a specialization of common cell contractility, is thus indisputably linked by the most extensive and complex connections with all the fundamental functions of animal life. Now this contractility seems to be everywhere proportional, even in the lowest forms, to the rapidity of the changes which take place in the organism; such changes appearing to consist in the continual death of the molecular components of the living structures—so that the amount of life of any animal is exactly expressed by the rapidity of the death of its component parts. It has been, moreover, so determined, that at the instant of this molecular death, in any tissue, oxygen must be present; either for the immediate oxidation of the effete matter, now once more restored to the laws of unorganized nature, or to act a special part in virtue of its chemical power, of attacking the tissues, and inducing that very death which is destined to be the source of motor manifestations. Somatic animal life is therefore the result of molecular death (a maxim which is extensible into a far wider signification); and the assistance of oxygen is indispensable. As a corollary, of the utmost consequence therefore, animal life itself, depends essentially upon the presence of oxygen, which, irrespectively of the part assigned to it in the above considerations, undoubtedly exercises a most important influence in so modifying forms of matter as to render them subservient to the processes of growth and nutrition. All animals, even intestinal worms, the lowest radiates, and the protozoa, perish sooner or later if placed in water, or air from which this gas is absent, nor is the ovum itself developed without its agency. Aëration of the nutritive fluid, is thus a primary law of animal existence, to which there can be found no true exception whatsoever—it being also requisite that the access of oxygen which is mainly implied by the word aëration, be likewise sufficient to subserve all the necessities of the organism. The fundamental importance of the function is plainly acknowledged by the constancy and diversity of the appliances for its performance, found to exist in all but the simplest animals, the development of the respiratory mechanism being in-

variably in direct ratio *to the amount of life*, or the variety and activity of the animal functions proper to the species.

Thus, aquatic respiration is provided for, by simple surfaces or membranes, sometimes folded or lamellated, by tuft-like branchial filaments, or true branchiæ, as in crustacea and fishes, etc.—for breathing air, membranous sacs, naked cœca, as in the nudibranchiate mollusca; saccular lungs, more or less compartmented, in batrachia, serpents, cheloniæ, birds, and mammals. It is in the mamalia that the function of aëration, is most elaborately performed, that the diaphragm becomes complete, the thorax moveable both during inspiration and expiration by the muscles, and the exposure of the circulating fluid to the air most extensive. In man, it is estimated that the number of ultimate air cells is no less than 36,000,000, and the surface of all the red-corpuscles of his blood, as much as 10,000 square feet. So vast is the area which nature exposes to the atmosphere, the stage on which the play of life is enacted; and by which she renders the economy so exquisitely susceptible to all changes in the composition or density of the gaseous fluid, which is separated from the *penetralia* of her most composite mechanism, only by a delicate membrane—pervious alike to gases and fluids in both directions.

THE BALANCE OF OXIDATION AND TISSUE-DEATH.

The absorption or temporary fixation of oxygen in the nutritive fluid is therefore, a condition essential to the existence of animal life, and to the manifestation of those actions which depend upon the contractility of the tissues.

At the present day, three sources of demand for oxygen may be recognized.

1st. The changes involved in the ascendent or progressive metamorphosis of the products of digestion, into such substances as are directly able to subserve the purposes of cell-life, as in the successive oxides of protein, according to Mülder, and, as shown by the obvious necessity which exists for access of oxygen, from the very earliest stages of germinal development, both in plants and animals.

2d. The slow oxidative combustion of the elements of the food, and of certain effete products of nutrition, which, in the higher

animals, both those which are permanently warm-blooded, and likewise those which generate a marked degree of heat only at certain periods of functional or general activity, must be regarded as the main source of animal heat.

3d. The oxidation of the constituents of the tissues at the moment of their molecular death; the component elements of the animal fabric seeming to be endowed with the power of holding together under the influence of vitality, only for a certain time, beyond which term of life, "they pass into that decay, as Carpenter expresses the idea, which is common to all living organized bodies, which is retarded by cold and dryness, and accelerated by warmth and moisture: which takes place with increased rapidity at the approach of death, whether this affect the body at large, or only an individual part, and which goes on unchecked when the actions of nutrition have ceased altogether." This decay, which vitality seems able to hold in check, only for a limited period, is the source of the motive powers of animal life. In the vegetable world, the passage of organic matter from the domain of life to that of purely physical affinity, as in the fall of leaves, of petals, of the cotyledonous remains in young plants, or the exuviation of the bark, is not utilized as in animals, for the production of motive power, or of volitional, intellectual and emotional activity; for the developmental idea of even the highest vegetables seems to be attainable, without the exhibition of any such qualities, while on the other hand, some or all of them are essential to animal existence.

Now, as we have shown in the preceding section, the manifestations of these powers, is only possible by the death of the molecular elements of the body; and these enter immediately, or after a certain time, in special organs, by a sort of assimilative preparation, into union with oxygen, as in the case of fibrin, now regarded as an effete material. But for the greater part, these phenomena of tissue-death, seem hardly to differ from those of ordinary putrefaction, as we have elsewhere expressed it "what we call putrefaction is only the terminal changes of a series of reactions whose first steps are continually in progress within the living body."

According to Johannes Müller "the gaseous products of the decomposition of animal matter and of the human body in particular,"

and as now generally known to physiological chemistry, "are hydrogen, sulphureted and phosphureted hydrogen, ammonia, carbonic acid, and sometimes nitrogen." By combination with oxygen, sulphureted hydrogen is converted into water and sulphuric acid, and phosphureted hydrogen, into water and phosphoric acid; these acids appearing in the exeretions, more particularly in the urine, in combination with soda, magnesia and lime, as sulphates and phosphates. The carbonic acid is given off by the lungs and skin, or in union with alkali by the excretions; nitrogen is set free by the lungs; hydrogen directly consumed with evolution of heat. Ammonia seems to escape the action of oxygen in the system, by grouping with the elements of carbonic acid to form *urea*, a body which spontaneously changes under the influence of decomposing animal matter, such as urinary mucus, out of the blood, as well as in the bladder, at certain times, as in paraplegia with vesical paralysis, and even in the blood current itself in "*uræmic poisoning*, into carbonate of ammonia."

In the decomposition, therefore, of the soft animal structures, at the expiration of their short term of association with the principle of life, the same elements are evolved, which the chemist recognises in the putrefaction of such tissues out of the body, or after molecular death; and be it remarked, that the powers of life, according to the mode and cause of death, seem able to restrain the action of the chemical forces, and to prevent the occurrence of decomposition for a certain time after somatic death; for putrefaction never sets in immediately after the animal powers cease to manifest themselves, unless vitality has been gravely impaired previously to death, or abolished at the instant of death itself.

During life, the oxygen of the blood, is tasked at the moment of molecular death with the immediate oxidation of certain substances, some of them gaseous at ordinary temperatures, viz: sulphureted hydrogen, phosphureted hydrogen, and free hydrogen. In the decomposition of albuminoid tissues, we find, that after urea has grouped itself away, after all the oxygen remaining in the compound has united with the original hydrogen, there still remains a residuum of hydrogen, which enters into combination, or tends to do so, with the sulphur and phosphorus, to form the above mentioned gaseous compound, in which inceptive state, be-

fore they are actually set free, it is probable they are, during health, immediately oxidized. Still further, after the satisfaction of the sulphur and phosphorus, free hydrogen remains in excess, which, like the carbon, is) either immediately, or after passing through certain metamorphic combinations), consumed by the oxygen of the blood; all these combustions taking place in the blood current, or in the substance of the tissues themselves.

Such I submit as the most rational exhibit, which physiology is able to present of these fundamental reactions, by which the phenomena of animal life, in its various manifestations are naturally subserved; while at the same time, the noxious products of the inevitable, but carefully utilized processes of organic transition are destroyed at the instant of their formation, or soon afterwards, and exhaled or transuded through special membranous expansions.

The state in which oxygen exists in the blood appears to be peculiar. All the intra-systemic reactions, such as the oxidation of malic, citric, and acetic acids, into carbonates, recognizable in the urine, and many other very remarkable phenomena of an oxidative character, show that this agent, in the blood, is in a condition of exalted activity, far exceeding that of its common form, as it is usually prepared by the chemist. These varying qualities of oxygen are now known to be altogether dependent upon its source and the mode of its preparation. As present in binoxide of hydrogen, as evolved by a mixture of permanganate of potassa and sulphuric acid, or by the slow oxidation of phosphorous in pure oxygen, or in common air; by the action of oil of turpentine upon air, by the passage of the electric spark through air or oxygen, by the influence of finely divided platinum, and in many other ways, it can be readily procured in a degree of activity equalling that of the blood itself, under which form it is known as *ozone*. Thus prepared, it will instantaneously unite with hydrogen, sulphureted, phosphureted, and carbureted hydrogen, will oxidize thin laminæ of metal in the cold, transform the vapor of alcohol into acetic acid, oxidize malates, citrates, tartrates and acetates, into carbonates, act with great energy upon the elements of the blood itself and all kinds of organic matter, in short manifest all that vigor, which, as, exhibited in the phenomena of hæmal oxidative changes, was formerly attributed to the immediate force of vitality. The qualities of ozone, and the conditions of its existence in

the atmosphere, have been made the subject of assiduous and widely extended observations by its discoverer, Schönbein, and a numerous and daily increasing corps of attentive observers.

The identity of the oxygen of the blood, and ozone, or at any rate the continual ozonification of the oxygen absorbed into the blood corpuscles, was first discovered by Schönbein, whose views were endorsed by most scientific men, and among others by the distinguished Lehmann, who observes, that "it is almost a necessary deduction from Schönbein's most recent observations, that the oxygen in the blood must undergo a change resembling that which it experiences when retained for some time in contact with phosphorus, oil of turpentine, etc.—that condition of oxygen, in which, as ozone, it exhibits a far more energetic force of affinity."—(Physiol. Chem. v. ii, p. 359.)

Accepting this view of the nature of the hæmal oxygen, which in recent publications, I find is generally received both in Europe and this country, in a paper read by me in 1859, before a scientfic body of this city, and afterwards published, I expressed the opinion that the red corpuscles of the blood are the agents of oxidation, in virtue of their ozonification, being analogous in their action to the particles of platinum black, likewise endowed with the same power. I find in the Annual of Scientific Discovery, for 1865, the same views set forth, with the same illustration, by a German physiologist. Indeed, the ozonicity of the blood oxygen, may be safely said, at this time, to have passed over, from mere suppositions analogy, into the domain of substantial physiology. Such then is a short review of the phenomena of hæmal oxidation.

The imminent decay of the tissues, is somewhat anticipated, or exactly met by the oxygen, so that nervous power is generated by the very act of molecular death; certain products which appear to be noxious to the system, in their unoxidized condition, being concomitantly attacked by oxygen. These reactions are properly performed only during health, the due satisfaction of these noxious products, by the oxygen of the blood being denominated the normal balance of oxidation and tissue-death. The oxidation of the tissues is thus continuous during life, while of course the reaction of oxygen upon the elements of the food, and likewise upon the tissues themselves, as in muscular motion, and intellectual operations, are of an intermittent nature. But beyond all these

occasional changes, a never-ending demand for oxygen is established for the motions of the involuntary system, which appears to utilize all the force generated by the uninterrupted oxidations of the steadily decaying tissues. The balance of oxidation can only be complete, when oxygen is present in the blood in sufficient quantity to meet at once all these continuous and intermittent demands, and some considerations would seem to show, that it is usually present in slight excess—beyond what is absolutely necessary for the satisfaction of all the oxidizable matters of the blood and soft structures.

ON THE CAUSES OF THE MOTION OF THE BLOOD THROUGH THE CAPILLARY VESSELS.

Although Harvey's discovery of the circulation of the blood, inaugurated a new era in the science of life, solving problems which up to that time had baffled all the efforts of purely speculative physiologists; and although Harvey demonstrated the universality of its occurrence throughout the organized creation, with a masterly grasp of intellect which eventually completely vindicated his doctrines, and established them as fundamental principles of physiology, in spite of long-continued opposition; both Harvey and his successors, until about the year 1828 attached a paramount importance to the action of the heart in the maintenance of the circulation, which observers since that time have seen good reason to disallow, to a very considerable extent.

Treviranus, Carus, Kielmeyer, and others, maintained the opinion, that the blood was endowed with an accessory power of self-propulsion, which not only urged it through the capillaries during life, but even maintained the circulation for some time after death. In this way they explained the general emptiness of the arterial system, constant in nearly all modes of death except those which gravely impair the vital processes, or suddenly annihilate them. This emptiness of the distributing tubes, noted by the ancients, who had thence imagined that these vessels during life contained only air, and consequently denominated them arteries, was *not satisfactorily* explicable by the contractile powers of the vessels themselves.

In 1830, Baumgartner and Koch proposed a theory, by which

the propulsory action of the heart was supposed to be aided by an attraction of the walls of the capillaries, exercised upon the elements of the blood itself. In commenting upon their views, Müller, objected, that such a capillary attraction could only cause a local afflux to the part, unless it be admitted "that the attraction of the capillaries for the blood is exerted only while the blood continues arterial, ceasing when it becomes venous." Now it is upon the basis of this very partial admission of the doctrine by the ingenious Müller, that the foundation was laid of wide generalizations upon this subject; an extension of the subjacent idea having harmonized a great assemblage of facts in apparent contradiction to each other; and moreover, in attributing the maintenance of the circulation, in great part, to influences generated by the reciprocal reactions of the tissues and the blood, during this passage of the nutrient fluid through the capillary system, the rational development of Baumgartner and Koch's hypothesis has by so much restricted the function of the heart to that of merely complemental supply; this organ of itself, without the concurrent aid of the capillary forces, being unable to drive the blood through the minute vessels.

The merit of successfully enlarging upon these ill-defined ideas of physiologists, and of extending the principle which governs the phenomena of capillary action in physics to the movements of the fluids in the living creation, is undoubtedly due to our distinguished fellow-countryman, Prof. Draper. His views were first distinctly enunciated in a paper, "On the Forces which Produce the Organization of Plants," published in 1844; since which time he has largely amplified them. It is now universally conceded, that the law he has defined, is not only able to explain complex phenomena, but also to suggest many new illustrations in matters not formerly recognized as belonging to the same general order of facts. The principle of capillary motion, which Professor Draper has developed, may be emphatically set forth as follows: that in the ultimate vessels of both the greater and the lesser circulation, viz., in the interior of every organ and tissue, the attraction of the organic elements of the body, as well as that of substances temporarily associated with the living structures, as air in the lung cells, *for the blood* and reciprocally *of the blood* for such

organic elements, results in a *vis a fronte* force, which causes a physical approximation of the two inter-attracted bodies, which ceases as soon as the imminent reaction, the cause of the attractive force, between the blood and such individual parts, is accomplished; and by a continuity of such attractions and successive reactions upon new portions of the advancing blood stream, *this* is caused to advance and to propel the portions already acted upon into the venous radicles; such propulsion being only of a mechanical nature, or possibly, the result of a polar repulsion now exerted by the nourished structures.

Thus, the venous blood supplied to the lung capillaries by the action of the heart, being deficient in oxygen, is attracted by the air in the other side of the membrane of the air-cells, or dissolved in the delicate wall of the capillary itself, until aëration is accomplished, successive new portions of blood pushing forwards the arterialized blood toward the pulmonary veins: this reaction and consequent motion continuing as long as oxygen is present and the blood needs aëration.

Likewise, in the circulation of the system at large, the arterial blood, containing all the elements requisite for the growth and nutrition of parts and for the oxidation of the products of cell-death, is attracted by the stroma of organs, parts with its oxygen and nutritious principles, becomes as it is termed *venosed*, and is thrust forwards towards the veins, by the continuance of the blood-tissue-reaction, and the consequent advance of new portions of arterial blood.

Not only is this true for growth and systemic nutrition and the extrication of nerve force, generally, but the *presence*, more particularly, of each special element destined to be temporarily or permanently separated from the organism, becomes, in a similar manner the immediate cause of motion in the blood-current, through the vessels of the apparatus specially designed for the separation of such element from the blood-mass. Thus, the elements of the urinary secretion in the blood contained in the capillary network around the uriniferous tubules, are attracted by the cells which are cast off in successive generations from the basement membrane of the tubules, whose office it is to appropriate such elements from the blood current; a repetition of this act

of attraction, as elsewhere, causes an onward movement, the deleterious matters being separated as they arrive, and the purified portions of blood, thrust forwards, by the advance of such portions as are being acted upon, into the renal veins.

A similar action occurs for the biliary, pancreatic, gastric, salivary and other secretions, and is doubtless the cause of the motion of the blood through abnormal growths.

The following examples will show that the circulation in the minute vessels, in both the animal and the vegetable kingdoms, is generally effected by the play of these capillary forces alone; so that it may be safely asserted that the accomplishment of nutrition, oxidation, arterialization, or secretion, is the main and indispensable cause, in each case, of the circulation, for all organized beings; the heart being only superadded as a more highly developed structure for the attainment of a result not otherwise attainable with sufficient power or certainty, in such highly organized creatures as the higher animals of the invertebrate groups, and the vertebrata themselves, though it is only in birds and mammals that this organ reaches its highest grade of development.

1. The ascent of the sap in plants is dependent upon the action of the leaves, with a certain independence of the propulsive power of the roots; this is shown by dividing the stem of a young tree in the spring; the sap flows from the divided vessels still connected with the roots, which seem to act like the heart in animals, as organs of supply; but the upper portion of the plant if placed in water, will continue to absorb the liquid required for the maintenance of the functions of the leaves during a considerable time.

2. More strongly still; if in winter, a shoot of any deciduous plant be trained into a hot house, it will bud and put forth leaves, while the rest of the plant is still paralyzed by the cold.

3. In the capillary vessels of leaves, while on the parent stem and uninjured, which contain a "latex" or milky juice, by the opacity of whose minute particles, the motion of the fluids can be observed, sap being usually too transparent for such observations, motions are constantly observed during the life of the plant. These motions are sometimes direct, at other times retro-

grade with reference to the course of the sap, and are only explicable by supposing them due to nutritive reactions taking place between the solid structures of the leaf, and the juice itself.

4. Distinct and beautifully regular "cycloses" or currents, in their granular fluids, can be perceived in a number of cellular plants, and during various periods of the development of the vegetable embryo, which are only referable to opposing actions of different parts of the same cell.

5. In the *Holothuriadæ*, the highest of the radiate series, the vascular system is extensively developed and minutely distributed to the tissues and the intestinal and mediastino-respiratory apparatus, and to the tentacula; but there is no appearance of a heart or contractile vessels capable of maintaining the extensive distribution of the blood.

6. The heart or contractile propulsory organ of all invertebrates excepting the *cephalopoda*, and even of *amphioxus* among the vertebrata, is destitute of valves and obviously unable to urge the blood through the extensive ramifications of their arterial system.

7. In fishes, a system of capillaries, the branchial vessels, is interposed between the heart and the aorta, which is devoid of special contractility; so likewise in birds and reptiles the kidneys are supplied by the venous system; and in mammals the liver receives the blood, from which the secretions are produced, by a vessel which is separated from the heart by the intestinal capillaries.

8. In the development of the chick, it is now established by the recent researches of Von Baër and all other observers, notwithstanding many former denials and counter assertions, that the formation and movement of the blood in the vessels of the *area vasculosa*, take place while the heart is still only a shapeless mass of cells destitute of contractile capacity; this movement being towards the heart, so that the first vessels formed are *veins*, likewise performing the office of absorbents of the yolk-material.

9. In anencephalous monsters, the heart is usually absent; nevertheless the vascular system is developed, and the capillary circulation conducted with a completeness adequate to all the demands of nutrition and growth.

10. The enhanced rapidity of the circulation in the frog's foot, under the influence of heat, is plainly referable to the occurrence of chemico-vital reactions in the part itself, and must be quite independent of the action of the heart.

The foregoing illustrations will suffice to demonstrate the universality of the principles involved, and present a series of concurrent facts which must be regarded as conclusive, upon this point. Although in 1841, Müller was not prepared to sanction these views, he nevertheless admits, that the reciprocal vital reaction or affinity between the blood and the tissues of the body, is an essential part of the process of nutrition, and gives rise, under certain circumstances, to an accumulation of the blood in the organs. And Carpenter concludes a consideration of the subject as follows: All these circumstances indicate that the movement of blood through the capillaries is very much *influenced* by local forces, although these forces are not sufficiently powerful in the fully developed state of the higher animals, to maintain it by themselves. And from other facts it appears, that the conditions necessary for the energetic flow of blood through these vessels, are nothing else than the active performance of the nutritive and other operations, to which its movement is subservient." (Hum. Phys., p. 257.)

As long therefore as aëration, nutrition and secretion are properly performed, so long will the movement of the blood continue through the pulmonary, systemic and glandular capillaries respectively, with that steady flow which is seen in transparent healthy parts under the microscope. As this motion is maintained by the reciprocal action of the tissues and nutrient fluids, it is necessarily controlled by all the proper conditions of such action; these will be noticed when we speak of Retardation and Stasis. We proceed to examine the influence exerted by the nerves upon the due transit of blood through the ultimate vessels.

ON THE ACTION OF THE SYMPATHETIC SYSTEM OF NERVES UPON THE CALIBRE OF THE MINUTE VESSELS.

According to Schwann and other physiologists, including Paget and Kirkes, and Prof. Kölliker, the capillary vessels, like the ducts of plants, are generally formed by the endwise coalescence

of rows of cells, into tubes, through which the blood at once passes; the walls of these cells remaining as a homogeneous membrane, the *capillary parietes*, on which the persistent nuclei of the original cells are visible. Such is the usual mode of development, although it appears from extended observations, that these vessels may be formed in the substance of false membranes and fibrinous exudations, quite independently, and become likewise filled with red corpuscles produced within them; and they may also originate from adjacent vessels, by mere outgrowth, as pouch like diverticula which become elongated into tubes, permitting ingress of blood, and establishing a communication with other vessels of the part; the last is the usual process, as observed by Mr. Paget, in the organization of new parts in the repair of injuries.

The capillaries though eminently elastic, are not believed to possess any real contractile power. Under the microscope, the velocity of the blood current through them is seen to be subject to intermittent variations due apparently to the operations of nutrition going on in the tissue. These vessels likewise contain at different times very different amounts of blood, but, as we have said, are clearly destitute of any other influence upon the blood-stream than that of mere physical elasticity. Changes in the volume of the circulation, must now be regarded as entirely due to the action of the minute arteries, in virtue of the true muscular coat which they possess, and their immediate subjection to the influence of the nervous system. Under the influence of galvanism, the arterioles gradually contract, until at last they absolutely refuse a passage to the blood; so also a partial and temporary constriction takes place by moderate cold, and on the application of certain stimuli, as sulphate of atropine, mechanical irritation, followed by a dilatation not greater than usual; while under the application of alcohol, common salt and a solution of opium, the capillary capillary contraction is not only very slight and transient, but is followed by great and long-continued dilatation. According to Müller, substances, like corrosive sublimate, arsenic, the mineral acids, undue heat, or mechanical laceration, such applications, in a word, as impair or destroy the vitality of the part, produce an atonic dilation, without any subsequent contraction. In propor-

tion to the contraction or dilatation of the arterioles, the volume of blood passing through the capillaries is increased or diminished, so that, as is shown by the experiments presently to be cited, complete closure of the minute arterial branches, so long as vitality of the part remain unaffected, induces complete vacuity of the capillary system; and on the other hand, uncontrolled dilatation of the arterioles, overwhelms the capillary plexuses and distends these delicate and expansile vessels to their utmost capacity.

That these motions are exclusively controlled by nervous influence is shown by a large array of facts, which moreover point unmistakeably to the sympathetic system as the origin of the forces, by which they are excited and normally maintained. The considerations bearing upon this important and interesting question, will now be reviewed.

The sympathetic system of nerves appears to be functionally, as it is anatomically, distinct from the cerebro-spinal, although fibres from each system pass reciprocally into the other. Nevertheless, the sympathetic is provided with its proper centres of reflection and force-evolution, as a chain of ganglia which extends on both sides of the spinal column from the ganglion of Ribes on the trunk of the anterior communicating artery of the circle of Willis, to the *ganglion impar* on the coccyx. The ganglia of the posterior roots of the spinal nerves, as well as the cardiac, and semilunar ganglia, with other gangliform enlargements found upon the peripheral nerves within the thorax and abdominal cavity, are all included as parts of the same system. The ganglia of the abdomen and thorax communicate directly with the spinal nerves, by means of the *rami communicantes*, each ganglion sending to the spinal cord, a bundle of grey, solid, and minutely corpuscular fibres, the so-called *organic* fibres, or *fibres of Remak*, and receiving from it a twig of white or *axis cylinder tubular fibres*, the true cerebro-spinal fibres. That these white fibres are not derived from the brain, is shown by the independence of all the parts supplied exclusively by the sympathetic system of true volition; and likewise by the direct observations of Clarke and Van der Kolk, and the rational deductions of Volkmann, by comparison of the sectional area of the spinal nerves with that of the

cord in crotalus mutus, by which it seems that the anterior or motor roots of the spinal nerves whence these white fibres of the ramus communicans are derived, originate entirely from candate and stellate cells in the anterior cornua of the grey matter of the spinal cord, having no immediate connection with the brain. This white matter is continued between the ganglia, as a part of the commissural cords; and would seem to be devoted to the organs of involuntary motion, as we might anticipate from its origin; thus in the calf, the sympathetic nerves supplying the heart, in conformity with this prevision, were found by Müller to consist almost exclusively of such white tubular fibres. *The other portion*, or grey organic fibres of the ramus communicans, is generally regarded as efferent from the sympathetic system, to the ganglia on the posterior roots of the spinal nerves. It is now clearly admitted that in all the mixed spinal or cerebral nerves, and even in some nerves not of this character, the organic fibres of the sympathetic system can be readily perceived. This general diffusion of the sympathetic fibres through the cerebral and spinal nerves to the tissues and organs, is quite irrespective of the marked and extensive plexiform or filamentous distribution of these nerves to the greater and smaller vascular trunks, to very minute ramifications. Retzius, long since, succeeded in tracing the grey fibres of the sympathetic derived from the spheno-palatine ganglion, into the nervus trigemnus of the horse, and particularly into the superior maxillary branch, as far as the nasal branches and the pituitary membranes, as well as upwards into the orbit, and to the ciliary ganglion (Müller—Elements of Physiology, p. 529). Müller states that he has likewise seen a thick fasciculus of grey fibres, sent from the sympathetic within the cranium, to join the second division of the trifacial. "Giltay, in 1834, showed that organic fibres can be traced accompanying cerebral and spinal nerves as far as organs to which they are distributed." (Loc. cit.) Müller maintained from a variety of considerations, that in all the cerebro-spinal nerves, besides the usual sensitive and motor fibres, there are likewise present, grey or organic fibres, which take their origin in the sympathetic system. Although as originally set forth by Remak and Müller, the true sympathetic nature of these grey organic, or gelatinous fibres, became the subject of much controversy, yet, as in other instances, Müller's re-

markable acuteness has of late years been vindicated by the testimony of many able observers, the real sympathetic nature and origin of these fibres, as well as their distribution to the tissues and organs, along with the white fibres of the cerebro-spinal system having been conclusively demonstrated, and accepted as physiological facts.

Hence, therefore, for the sympathetic nerves of involuntary motion, we recognize two centres of reflection; the stellate cells of the spinal cord, as well as those of the proper sympathetic ganglia. Although the will exerts no influence whatever upon the motions dominated by this system of nerves, it is not so with respect to the emotions. The elements of reflection therefore, in the æsthesio-motor circle, are: emotion in the encephalon, reflection from the cells of the cord situated at the origin of the motor roots, conduction of the impression by the white portion of the ramus communicans to the ganglion,—reflection, and thence a conduction to the organ to be moved. So likewise, there appears to be a double reflection from the same centres, in the normal motions of the involuntary system, which are purely excito-motor or reflex. Thus it is impossible to resist the evidence, which derives the whole amount of force expended by all the motions, whether voluntary or involuntary, in the chemico-vital changes naturally taking place throughout the body in the substance of the tissues. These changes are the origin of all force.

A great variety of physiological and pathological considerations, concur to show that the sympathetic motor system is dependent upon the general activity of nutrition for the performance of its functions. The phenomena of voluntary and involuntary motion, being to a certain extent concurrent, the involuntary motions are sustained by the natural changes of the body while at rest; but subject to a large increase of activity by the enhancement of the amount of nerve force directed to the voluntary system, as during labor or exercise. During sleep, therefore, the sum of all the changes taking place in consequence of the due performance of the nutritive functions, by the apposition of *new* tissue, and by the molecular death of the *old*, is fully expressed in the acts of respiration, heart's action, digestive motions, and peristaltic intestinal movements. It is only upon the resumption of *animal activity*, or awaking, that the tissues are called upon for farther

supplies of force, for the execution of the voluntary motions; this being provided by the oxidation of the effete material which has been thrust aside, by the apposition of new matter, to that pole of the vital circle, at which it is most easily attached by oxygen. So much for the action of the sympathetic upon involuntary motion; we are thereby prepared to consider its influence upon those motions of the small vessels, especially the minute arteries, which we have seen to occur under the action of various irritating substances, or so-called *stimuli*. Many considerations combine to prove that these motions are directly governed by the sympathetic system. The most notable and obvious of these are of an experimental nature.

a. If the propagation of force through the cephalic branches of the sympathetic nerve, be impaired or suspended, whether by extirpation of one or both the cervical ganglia, section of the nerve between them, or section or ligature beyond the superior ganglion, an immediate dilatation of the vessels of that side of the head and face occur. This section of the nerve originally practised by Pourfour du Petit, as early as 1727, was repeated by Dupuy, in 1816, Brachet and J. Reid, in 1837-8, who in nowise improved upon the observations or theoretical deductions of Petit. Claude Bernard has frequently repeated this operation, in whose lectures I have repeatedly witnessed it and have likewise performed it myself.

The attendant phenomena are general and intense dilatation of the minute vessels of the same side of the head and face, obviously by relaxation of the small arterial branches; rapid increase of the temperature, in consequence of the exalted nutrition of the part, which easily attains a superiority over that of the sound side, of eight or ten degrees of Fahrenheit, this moreover declining in temperature. The conjunctiva is intensely injected, the palpebral orifice contracted, the eye drawn backwards in the orbit, the nictitating eyelid, *in dogs*, swollen and thrust before the eye, and the pupil much contracted, obviously by the influence of the motor oculi (now unbalanced by sympathetic action), which is known to command the radiate muscles of the iris. In cats I have seen these symptoms disappear in two or three weeks, by reunion of the nerve; but after extirpation of the

ganglion, the train of symptoms seems to be absolutely permanent; Bernard states that he has known them last undiminished in intensity after a certain slight diminution which occurs within twenty-four hours, for a year and a half. None of those stimuli which at other times produce contraction of these vessels, will now effect such a result. Liq. ammoniæ will no longer cause contraction, nor the prolonged influence of cold, generally or locally applied; the temperature of the part is maintained with a degree of obstinacy which is truly remarkable, the ear of the side operated upon in the rabbit, remaining nearly at the same grade of temperature, although the other has fallen as much as twenty-three degrees of Fahrenheit. Nor is this capillary action and vascular dilatation and exaltation of temperature limited only to the surface. It extends equally, according to Bernard, to the interior of the cranium and to the cerebral substance itself, as may be readily shown by making the necessary incisions for the introduction of the thermometer, previously to dividing the nerve. Indeed, the contraction of the pupil, and spasmodic stricture of the palpebral opening due to contraction of the orbicularis, must be regarded as phenomena of reflex-nature, due to the increased sensibility of the retina to light, at least in part, in consequence of a hyper-activity of nutrition dependent upon increased afflux of blood. So also the retirement of the globe of the eye backwards into the orbit, would seem to be due to an enhanced concurrent action of the recti, by reflex action, from a similar cause. The blood itself of this side, as examined in jugular vein, care being taken to direct the bulb of the instrument towards the head, is likewise of a higher temperature. Such is the marked character and generality of the phenomena consequent upon this operation.

b. If now, as first observed, by M. Biffi, of Milan, in 1846, the nervous power of the peripheral extremity of the divided nerves, be excited by the galvanic current, and the influence of the nerve be thus restored, all the conditions described immediately disappear, but *not resting* at the point of *equilibrium*, new symptoms arise indicating a stage of excessive action. The eye protrudes from the orbit; the palpebral opening enlarges, and the lids are separated even against the will of the animal, the pupil becomes widely dilated, the vascularity of the parts subsides and becomes

completely effaced, giving place to pallor in all the transparent parts, as the conjunctiva, nose, and ear; the redness caused before the operation, by dropping an irritating agent, such as liquor ammoniæ into the eye, disappears nearly entirely, and the temperature falls rapidly below that of the other side.

Bernard has practised the extirpation of the sympathetic ganglia as well as section of their filaments, both in the thorax and abdomen, and states that such interruptions of the function of the nerve are constantly followed by the same vascular dilatation and the consequent increase of nutrition and rise of local temperature.

It is interesting to observe, as regards the cerebral and spinal nerves, that their section is likewise followed by local hyperæmia, and vascular paralysis. This is shown in the numerous experiments of Bernard, especially valuable as being undertaken with a view to a solution of this vexed question. Indeed, as these very nerves contain, by the admission of all observers of the present day, the organic fibres of Remak, in this point of view, denominated *vaso-motor*, it is obvious that their section with the rest of the nerve must entail a paralysis of the vessels, and the consequent hyperæmia will be associated in general with an exaltation of temperature, while this will be diminished more or less by the concurrent effect in depressing the temperature of the part, which depends upon the section, in the common bundle, of the motor and sensitive fibres. (C. Bernard, *Grand. Sympathique, p.* 20.)

c. Although the pneumogastric nerve is of a peculiarly composite character, containing at once fibres of motion, of sensation, most probably also of *special sensation*, and ministers peculiarly to reflex action, springing from the posterior regions of the medulla in the neighborhood of the calamus scriptorius, which part of the nervous system appears more readily excitable, into involuntary discharge, than any other,—the presence of the large jugular ganglion upon its root, stamps it unmistakably for at least a portion of its functions, as an *afferent trunk*, like the posterior root of the spinal nerves, and it is therefore rational to expect disturbances upon the section, with respect to the circulation, similar to those of any other mixed nerve.

If both the vagi are divided in the neck, all observers agree

(and many of us in this city have had the opportunity, during the visit of Dr. E. Brown-Séquard, of witnessing the vivisection), as J. Reid observes, "that a congestion of the blood-vessels, is the first departure from the healthy state of the lung," which eventually passes on into exudation and hepatization, puriform effusion and even gangrene. The action of the heart becomes immediately much increased in rapidity, in consequence, according to Brown-Séquard, of the turgescence of the minute cardiac vessels, the digestive motions and the effusion of gastric juice are arrested, and the frequency of the respiratory acts, immediately falls. The incompleteness of the effects upon nutrition produced by section of these nerves in the neck is explained by Müller by the anatomical consideration that the "vagus receives organic fibres not merely at the upper part of its trunk, but at its lower part also, having numerous connections with the sympathetic nerve, the influence of which cannot be cut off by division of the vagus in the neck," (Phys. p. 596). Nevertheless, these sympathetic fibres are sufficiently numerous to cause the circulatory troubles already alluded to, in the lungs and heart.

If now the function of the nerves be excited by strong galvanization of their peripheral extremities, as with the sympathetic in the neck, all the symptoms rapidly subside and soon passes over into a grade of præternatural activity. Thus, the respirations increase in frequency and become freer, the motions of the stomach are excited, the action of the heart returns to its normal standard, and to the amazement of those who have witnessed the operation, becomes slower and finally ceases entirely, as long as the galvanic influence is maintained. By the contraction of the minute vessels, consequent upon the restoration and even abnormal enhancement of the function of the nerve under the galvanism, the blood is refused a passage to the capillary system, and the heart is reduced to an anæmic condition similar to that of excessive hæmorrhage.

Such are the considerations which constitute the foundation of the vaso-motor powers of the sympathetic nerves. There are some physiological facts which naturally concur to complete the illustration. Thus, as in the preceding galvanizations, if a sudden emotion is excited, as by joyful or painful news, imparted to one, whose nervous system is naturally or abnormally excitable, an en-

hancement of sympathetic power is put forth, the vessels of the face, brain, and heart are contracted, and pallor, insensibility and cessation of the heart's action supervene—this is ordinary fainting. The phenomena are exactly similar to those produced by galvanization of the respective nerves.

So on the other hand, if a strong depressing influence, as by the emotion of shame, be excited, the vessels are at once dilated; the face and head become crimson in the act of blushing, the very brain is temporarily congested, the respiration becomes laborious, and the action of the heart voluminous and rapid; all these symptoms subsiding together. The phenomena are exactly similar to those produced by ligature or section of the respective sympathetic nerve trunks.

The forces expended by the sympathetic nerves, in the maintenance of due vascular contraction, as we have already set forth, are excited in the ganglia, by those naturally evolved by chemico-vital reaction in the tissues. Exercise of the voluntary muscles, gives rise to new extrication of force, a part of which seems to be diverted to the sympathetic system producing at such times an exaltation of its motor manifestations, for the manifest purpose of more rapidly aërating the blood, and distributing it to the tissues and nervous centres.

The activity of the vaso-motor power of the sympathetic system, varies therefore directly with the degree of nutritive action going on in the tissues and nervous centres, and with the arterialization of the blood. As long as the reactions of the body remain at their normal standard, the vessels remain of due calibre, furnishing, by the economical provisions of nature, just the amount of blood needed by the part; if the blood should acquire superior nutritive power, the forces generated in consequence, being reflected upon the vessels, cause their contraction, and afflux of blood is checked; if on the other hand the nutritive power, *or* the arterialization of the blood be diminished, or the vitality of the tissues themselves be in any way impaired, as by cold, or corrosive agents, less force is generated by the diminished vital reaction, and the vessels consequently are relaxed through deficiency of reflected power. These reactions, evidently adapted with wonderful completeness to the end in view, viz., the maintenance of that quantity of blood,

whatever its quality, which is adequate to the performance of the vital functions of the tissue or organ, membrane, muscle, gland, or nerves cell, is distinctly comparable to one of the most beautiful of human contrivances for *inverse* action, the governor of the steam engine, by which, when the tension of steam is low or the velocity of the machine is retarded more steam is allowed to flow in, and action is restored; while on the other hand, if the velocity of the machine be excessive, by undue generation of steam, or through deficiency of resistance, the supply is diminished, and action is restrained. Thus, an amount of force is constantly allowed to pass, exactly proportioned to the results to be accomplished, with the greatest economy of machinery, time and fuel. The minute artery may thus be likened to the butterfly valve of the steam engine,—this directly controlled by the governor; that by the sympathetic forces; *both* in inverse movement.

For the equable and natural passage of the blood through the capillaries, it is therefore requisite—

1st. That the vitality of the tissues be unimpaired.

2d. That the heat of the body be maintained at the temperature special to the animal.

3d. That molecular death takes place with due rapidity.

4th. That the oxygenation of the blood be adequate, and the oxidation of effete matters properly accomplished.

5th. That the blood contain the substances necessary for healthy nutrition.

The accomplishment of these various conditions results in the the maintenance of the natural capillary circulation, at its mean grade; we now proceed to examine the results induced by departure from these means, in each of the special conditions enumerated.

I.—*Vitality of the Tissues; exalted vitality; diminished or abolished Vitality.*

Physiology can scarcely show that the absolute amount of the vital principle present in cells or tissues is ever increased during the life of the same individual; but this is certainly liable to diminution, as by the advance of age, and by the extension of the process of budding, propagation by cuttings, and gemmation. In the life of any individual, the circulation through the same part is

most actively performed, during the earlier period, or that of development, through infancy and youth.

Vitality may be diminished by galvanic influence, by mechanical irritation not powerful enough to destroy it, by the application of certain reagents, as opium, alcohol, or common salt; in these cases there is a retardation of the blood current, with consequent partial relaxation of the vessels.

Vitality may be destroyed; as by the electrical or strong galvanic shock; by the corrosive reagents, acids, bichloride of mercury, boiling water, the actual cautery, mechanical violence sufficient to contuse or lacerate the tissues, division of the tissues by the knife, or by contusive division; in all such cases there is an absolute arrest of the capillary current, with complete relaxation of the arterioles and capillary vessels. This is a *stasis* by failure of vitality; the preliminary condition of the inflammatory processes, which in the procedures of surgery, are relied upon as the forerunners of the changes necessary to reparation.

II.—*Heat: Exaltation and Depression of Temperature.*

Moderate increase of temperature, causes an increase of the rapidity of the circulation, as seen upon the surface of the human body, and in the web of the frog's foot, or other transparent vascular structure.

Cold at first produces contraction of the vessels, with retardation of the blood current; if long continued, passive dilatation, with stasis, eventually followed by complete loss of vitality, when the necrosed part must be rejected from the system. Such is the effect of atmospheric cold, which is well known to produce stagnation of the superficial circulation, as in the hands, face, and exposed parts, with muscular paralysis: likewise of the prolonged application of frigorific mixtures or appliances to the body, being especially visible in the necrosis, inflammation and suppurative ulceration induced in a part by contact with liquid carbonic acid.

Diminution of temperature of the tissues, produces retardation of the circulation with partial relaxation of the minute vessels. Such degree of diminution as temporarily prevents the chemico-vital reactions, induces complete stagnation and dilatation. This is *stasis by abstraction of heat*, and may be followed by reëstablish-

ment of the circulation; but if continued beyond a certain time, is irreparable.

III.—*Tissue-death; enhanced molecular change; diminished molecular change.*

The active use of a muscle or set of muscles, short of fatigue, is well known to produce an enhancement of molecular death, and a more rapid circulation of blood through the minute vessels; so likewise the application of heat for a limited time, produces an activity of the circulation, by the power of facilitating or perhaps of directly causing the death and decay of the tissue, as far as permitted by the powers of life inherent in each part.

If a degree of heat be maintained in a part somewhat exceeding the normal standard for any considerable period of time, as by the therapeutical use of warm applications, retardation of the blood current, with vascular dilatation is produced, remaining for a longer or shorter time. This is obviously due to an early exhaustion of the powers of the part, by over stimulation of the natural processes of tissue-decay, up to that point where the power of vitality becomes equal to that of the stimulus applied, and so to speak, refuses to allow the destruction of more tissue, in virtue of the power it possesses of withdrawing organic matter from the domain of purely physical forces for a certain time. This point being reached, the oxygen of the blood finds no substances on which to act; attraction fails and stagnation more or less complete is the result, and as this presupposes failure of chemical vital reaction, vascular dilatation necessarily results. This is stasis by failure of molecular death.

IV.—*Oxygenation of the blood; hyper-oxygenation; hypo-oxygenation.*

Hyper-oxygenation; where the blood contains more oxygen than is adequate to the systemic oxidations.—The blood may contain more than its normal share of oxygen, under a variety of circumstances. If an animal be caused to inhale pure oxygen, and especially ozonized oxygen, it dies in a short time, after great excitement of all the vital functions, followed by fatal exhaustion. After death a hyper-oxygenation of the blood is observed; this fluid having become as rutilant throughout the venous system and the tissues, as it is naturally only in the pulmonary veins and arteries—with

intense pulmonary congestion, and sanguineous transudation into the air vesicles. The animal dies by *adynamia.* Such conditions are plainly the natural consequences of the undue presence of oxygen, for by Prof. Draper's principles, in proportion as the oxygenation of the blood, overruns the measure of health, in so much does that attraction fail by which the blood is conducted through the lung capillaries, until at length, arterialization of the venous blood being accomplished, absolute stasis supervenes, with capillary dilatation consequent upon failure of sympathetic action; all the excitability of the tissues and nerves having been completely exhausted. This failure of *tone* will, furthermore, he found to prevail throughout the entire system, as shown by the universal congestion of the tissues, and mucous surfaces, brain, etc. (See details in Scontetten's Brochure on Ozone, 1857).

Moreover, it is an established law of physiology, that exaltation of the temperature of the living animal tissues, as already set forth, promotes their decomposition, and sets free an increased amount of noxious matter demanding oxidation, while on the contrary all these effects are retarded or arrested by cold, or abstraction of heat. It is impossible therefore to doubt, that in summer and winter, a marked deviation from the mean or natural amount of tissue-death, must occur, in consequence of the wide range of temperature, to which our cutaneous surfaces, the exposed parts, as the feet, legs, hand arms, and face, are exposed for half the year, during a great part of each day. Every one knows that portions of the body, in winter become cold, far below the surface, to such an extent as to paralyze the capillary circulation, as well as the muscles, as of the hand, forearm, and those concerned in the motion of the lips, at such time molecular death is nearly suspended.

All this may still remain within the measure of health; but if the exposure to cold be prolonged, or its influence augmented by deficiency of clothing or nourishment, the normal amount of tissue change does not take place, the oxygen of the blood is not called on for its whole action; venosis in the general system is incomplete, and the velocity of the blood-movement through the capillaries of the lungs is necessarily diminished. Now, by the greater density of the air due to cold,—for we are considering a group of

conditions which occur most conspicuously in winter,—really more oxygen than in the warm season, is taken into the lungs; and moreover, if, as is very commonly the case, the cold air be highly charged with the actively oxidative form of oxygen known as atmospheric ozone, the hyper-oxygenation of the blood—begun by failure or retardation of the decompositive processes, that is to say, negatively, becomes now *positively* enhanced to a point at which the stasis of the blood in the lung capillaries is nearly or quite absolute. This stagnation accompanied by vascular dilatation, together constitute the phenomena of certain fatal forms of pulmonary congestion, or so called pneumonia, denominated typhoid though presenting none of the true typhoid symptoms, for the disease is often fatal in a few hours. The blacks, in whom there appears to be a higher ozonicity of the blood than in the white races, and who are at any rate, acknowledged on all hands to be peculiarly susceptible to the winter influences above described, and their results, pulmonary and catarrhal diseases of acute grade, in all cases which have fallen under my observation have been the subjects of the above form of pulmonic congestion, which must be distingnished from the well known typhoid pneumonia once epidemic at the south, especially among the negroes. Fundamentally, I believe the affections the same, but the addition of the typhoid symptoms, if the disease is not suddenly fatal, is enough for a distinctive separation from them by most nosologists.

If the hyper-oxygenation of the blood fails to attain the grade above described, and if the plastic elements of the blood are likewise superabundant (the natural result of a diminished expenditure of material, and of impaired nutrition by the retarding or paralyzing influence of long-continued cold), the congestion of the lung-tissue is soon accompanied by plastic exudation through the capillary walls, rupture of the small vessels, in fact the well known changes of inflammation. A true *pneumonia* has supervened, qualified by its usual symptoms, especially the sequences observed in the expectorated matter, from mucus, to thick plastic matter filled with air, then streaked with blood, finally prune juice, etc. Here the hyper-oxygenation, as Richardson sagaciously observes, induces stasis, in the *lung* capillaries; this stasis being accompanied with diminished chemico-vital reaction, the reflex action of

the sympathetic system is not elicited, and the pulmonary arterioles filled with stationary blood, passively dilate, so that the whole power of the heart bears directly upon the delicate and expansile membrane of the capillaries. These of course become engorged with stagnated blood, and exhibit the form of congestion which is the inevitable precedent of the enhanced but perverted acts of nutrition denominated inflammation. *Hyper-oxygenation of the blood* therefore induces more or less complete *stasis of the pulmonary or lesser circulation.*

(To be continued in next Number.)

ART. II.—*Traumatic Paralysis of Right Arm, treated with applications of Strychnia and Chloroform:* By W. H. WATKINS, Resident Student, Charity Hospital, New Orleans.

As cases of this class are of peculiar interest to the profession, not so much for their rarity, as on account of the unsatisfactory treatment which has hitherto been directed to them, I would present to the readers of the Journal the following case, which was admitted, treated, and discharged cured from the Charity Hospital.

A. L., a native of Spain, aged twenty-six years, was admitted into Ward 22, on August 30th, 1867. His general health was good, but his left arm was completely paralyzed. The history of the case is as follows:

On April 21st, 1867, while in the Imperial army, in Mexico, he was shot, the ball passing through the super-spinous portion of the scapula, coming out at the sterno-clavicular articulation. No large vessels were severed, and the hæmorrhage was slight. The wound healed rapidly. From the instant the wound was received, the arm was paralyzed. He was discharged from the army in June, and two months after he was admitted into the hospital. He was unable to move the arm, and when it was pricked with a pin, felt no pain. The greater part of the deltoid muscle was paralyzed. Upon examination, I thought the case hopeless, but

concluded to try the local application of strychnia, as recommend- by Brown-Séquard. The formula is as follows:

℞ Strychnia sulph.....grs: ii,
Chloroformis..... ℥i. M.

Apply half night and morning. This solution was applied with rapid friction. After continuing the application for twelve days, he complained of an uneasy sensation in the arm, and when again pricking him with a pin below the elbow, found that he felt pain. I made him use passive motion, and continued the applications as usual. The power of motion soon returned, and at the end of the fourth week he was discharged, using his arm very nearly as well as ever.

ART. III.—*A Case of Gangrene consequent upon Miasmatic, or Epidemic Bilious Fever:* By Dr. THOMAS M. MATTHEWS, Rusk County, Texas.

HUGH K., aged fourteen years, of nervo-bilious temperament, was on Tuesday, August 14th, attacked with bilious remittent fever, at the time prevailing epidemically in this section. The attack was a severe one, and otherwise not differing from that disease as usually seen in this climate, which will be sufficiently explicit for all those conversant with the Summer and Fall diseases of the South.

I saw him the next day, and owing to the idiosyncracy of the patient could not use the bold, abortive treatment 'tis my custom to do, lest I should set up highly inflammatory action in the stomach and bowels, which I knew such a course would, in his case, almost inevitably produce, and when aroused, be very difficult to control. Determined to avoid Scilla, even though I ran the risk of Charybdis, I conducted the case on a mild, "expectant" plan which, without detail, suffice it to say enabled me in six days to discharge the case as entirely convalescent, that under other circumstances and treatment, would, in all probability have been *cured* in half the time.

On the 22d, two days after discharging my patient, I received a message that "Hugh was not doing well," accompanied with a request that I would visit him. I found him complaining of acute pain in the end of the great toe of the left foot, which occasionally shifted to the ankle just below the internal maleolus, where, finally, it located itself. I learned further that the pain had appeared first on the front of the leg just above the patella.

Otherwise I could discover nothing abnormal about the boy, except that the foot was a little cooler and paler than its fellow. There was no abrasion whatever about the leg or foot, but just in the end of the toe the skin was a little retracted making a little "dimple," at the seat of the pain. I was also informed that during the night there had been some febrile excitement which had lasted perhaps as much as two hours. Seeing nothing to be done, and he being now nearly quiet, I directed that, should the pain return and the foot and leg continue cool, the limb from the knee down to the ankle be enveloped in a mustard cataplasm and the bowels moved in the morning with a seidlitz. The next morning I was again sent for with the message that "*the foot was turning black.*"

Owing to my engagements I did not see him until about one o'clock, P. M. I then found him very restless, and complaining of a "smarting, stinging, burning pain," in the leg and foot, but now particularly in and about the ankle joint. There was no constitutional excitement which this might not reasonably account for, and otherwise he was apparently well. To use his own language in reply to my question, "I am as well as ever I was but for my foot." A small dose of morphine soon quieted him, without, however, producing any stupefying effect. Examining the foot, I found it, on the top, of a purplish *(ecchymosed)* hue, as if it had been bruised, while the tops of, and parts between, the two great and two next toes were of a dark purple. The ends and bottom of them, and the whole sole of the foot were perfectly black—the leg, from the middle down to the ankle presented an appearance similar to the dorsum of the foot. The whole limb from the knee down was perfectly cold and dry. The mustard had been applied as directed—had produced slight redness, but no warmth nor any influence on the pain, which redness had rapidly changed to, or

been followed by the ecchymosed appearance now presented. There had been, I was informed, two slight febrile exacerbations, one about eleven o'clock the morning before, the other near the same hour at night, and neither lasting more than two hours.

The pulse was now full, soft, and seventy to the minute—the tongue clean and moist, the skin, soft, moist, and in temperature perfectly normal; appetite, good. In fact, but for the condition of the leg, he was, as he said, well, and this contrary to what might have been expected, was exquisitely sensitive even to the touch. While I now thought I had a veritable case of gangrene, yet grouping all the attendant circumstances, I could but doubt the correctness of my diagnosis, and requested that my friend, Dr. A. F. Attaway be sent for.

Returning at night, and Dr. A. not having come, I found there had been another slight exacerbation of fever, the tongue slightly coated, there had been no return of the pain, and the condition otherwise unchanged. I gave some small portions of blue mass and soda, in proportion of one-third of the former to two-thirds of the latter, combined with a nervine, to be followed in the morning by a seidlitz, and directed twenty-five grains quinine and one half grain morphine to be given in a single dose, at half-past seven o'clock, in the morning. I also applied heat to the limb by means of boiled ears of corn placed around it, the whole wrapped in a blanket. Returning the next morning, I found the general condition but little if at all changed; the bowels had moved twice; the tongue was clear, appetite good; there had been no return of the fever, and having rested well under the influence of the nervine, the quinine had been given without the morphine. The purple and black color seemed to be fading, but the temperature of the part was unchanged. I now directed tinc. ferri. mur. gtt. xx, to be given every two hours, and left to return the next morning, Sunday, August 25th. On examination, I now found at page 100 *Druitt's Modern Surgery*, a case reported by Mr. Flint, very similar to my own.

Sunday, August 25th. I now find the condition of the patient unchanged except that the line of demarcation seems to be establishing itself on the back of the leg, about three inches below the popliteal space, and about an inch and a half lower down in

front. Being now certain of my diagnosis, I informed the family that in my opinion the only remedy was the knife, and requested that Dr. Attaway might be again sent for to meet me early the next morning. I also invited Dr. S. W. March, who has retired from active practice, to be with us. They both entirely concurring with me in opinion, with their assistance I amputated at the junction of the middle and lower thirds of the thigh, adopting the circular method.

We dressed the stump with *dry* lint, and used no water till it was demanded to quiet pain, and allay too great heat, which was rarely required, and then only dripping enough on to produce the impression of coolness. The tincture of iron was continued in twenty-one drop doses every four hours, for four days, when it was gradually diminished to ten drops. But tea and a generous diet has been constantly given and taken with a great relish. The bowels have been kept soluble by the use of a seidlitz, whenever required. There have been no unfavorable or untoward symptoms; the pulse has at no time been over sixty-eight to the minute, always soft and full, and in even the healthiest subjects I have never seen less constitutional disturbance, or a more rapid and favorable convalescence. This is, too, the more deserving notice because the most unfavorable prognosis was forced upon us by the appearance of the stump after the operation. The arterial blood which escaped was as dark as venous usually is, while the latter was as black as the ink with which I write, showing a *very great* lack of *red corpuscles* and an over dose, so to speak, of carbonic acid. The muscular tissue was exceedingly flabby and looked more like "*blue beef*" than anything else I can compare it to, an expression which will be fully understood by all the medical men whose fortune it was to serve in the late war; while the marrow (medulla ossium) protruded from the sawed end of the bone, a dirty, purplish, pulpy mass, most unhealthy in its appearance. I should add also that at the time of the operation several ugly pale red splotches showed themselves on the face and body. These, however soon disappeared, and, as already stated, up to this time *eleven* days since the operation no further symptom of a return of the disease has shown itself.

Sept. 5th. I to-day removed all the dressing and applied new

adhesive strips. Most of the wound is healed by the first intention, the sutures are all cut away, two ligatures only left. The points not entirely healed are granulating healthily. No dressing further than a cloth *dampened* with cold water is now applied.

Sept. 19th. I have seen my patient from time to time, and today he has made me a visit (riding in a buggy). The ligatures have all been removed; he is walking about on crutches and may be said to be *well.*

The rare occurrence of similar cases first induced me to report the above. The case alluded to as reported by Mr. Flint, and that here given, being the only ones of which I have been able to find any account. Then the power exerted by the tinct. ferri mur. used in heroic doses, for I am convinced that it promptly arrested the disease, making it form the "line of demarcation" sooner than it would otherwise have done, and also prevented its reappearance in the stump, inclines me to the belief that had it, in the very outset of the disease, when the pain and coldness were the only guides, been exhibited and *pushed* as far as the stomach would tolerate it, the result might possibly have been different, and the leg, or at least more of it, saved.

That the intensity of the *miasmatic poison* was the cause in some way of the gangrene, I have not a doubt—why the end of the great toe was selected as the point of attack is not so clear—unless that part being most remote from the great centres of life, and as a consequence, the circulation in it less active, was the more ready to die, yielding to the power of a poison it could not eliminate. Had the whole foot or the toes alone been enveloped in the mustard cataplasm we might, perhaps, have successfully sought in its irritating effect the immediate cause which excited the latent disease. But such was not the case; the mustard extended no further than the ankle, enveloping it, that being the seat of the pain at the time it was applied, and so this explanation falls to the ground. The potent effect already alluded to of the tinc. ferri mur., (it being, so to speak, the almost master of erysipelas, and unacknowledged as a remedy in miasmatic or bilious fever) might suggest the idea, as has been done by a very intelligent friend already to me, "that there was an erysipelatous taint which degenerated into gangrene

brought about by the mustard applied to a surface of such feeble vitality, or to a part in which the pain was so severe that the patient was not conscious of its effect upon the skin, and therefore allowed it to remain an inordinate length of time." This could scarcely be; for there was *never present*, so far as I saw, *a single symptom of erysipelas*, nor was the mustard kept on but a short time.

I am convinced in my own mind, as already stated in other words, that like the case of Mr. Flint, though of rare occurrence, it was clearly not only a *post hoc* but also a *propter hoc* result of the miasmatic poison, which produced the original fever, here in some way to me inexplicably localized and in its localization intensified. We have had an *unusually* wet season, and while I have frequently seen more general bilious disease—more cases I mean—in the summer season, yet I have never seen the same disease appear in so many different and malignant forms as in this. Scarcely a case but has been attended by unusual and severe pains, referred to some particular part; many have been followed by large and troublesome abscesses, sometimes in the glandular system—sometimes in the muscular, while in a few that I have seen, and others I have heard of, the *poison* though apparently eliminated, has left its mark on its subject in a partial or complete paralysis of some limb or muscle, which however has readily given way to the prompt use of tonics and counter-irritants.

October 1st, 1867.

ART. IV.—*Artificial Procidentia Uteri, as a Means of more Effectual Treatment of Cancer of that organ:* By E. F. GORDON, M. D., Mobile, Ala.

In proposing such an extreme plan, I am aware that I am running counter to the experience of distinguished men, and to the present teachings of surgery and medicine.

Let us for a moment review the history of the course and treatment of cancer of the womb, as we ordinarily meet with it. We are summoned to take charge of these cases usually, when the pains, hæmorrhages, and putrid discharges alarm our patients.

It is the fate of our laboring classes that as their hardier frames bear pain better, we rarely see them until the disease is far advanced. The two forms of carcinoma, fibrous and encephaloid, are unfortunately common, and the latter strides on with fearful rapidity. The epithelial first described by Sir Charles Clark, as the cauliflower excrescence, pours out at an earlier period a profuse serous discharge, oftentimes acrid, but not at that stage offensive, and in this way, and from the fact of its slower march, is oftener seen by the physician while yet confined to the original cervix.

It is unnecessary here to enter into the pathology of this neoplasm. Whether it is, according to Chambers' view, a defect of vital force which equally predisposes to the deposition of tuberculous and cancerous matter, by degeneration of the blood, it is only too well known that its progress is always towards destruction.

Those of us who are in daily contact with this disease, are familiar with its loathsome train of symptoms, and with the inevitable result, sooner or later, but generally after two years of terrible suffering.

The standard authorities advise for treatment that we endeavor to improve the general health by bitter tonics, and to confine ourselves to allaying pain by anodynes, checking hæmorrhages by astringents and the tampon, and keeping down offensive odors by chlorinated washes. In former times, starvation was occasionally practised, and an exclusive vegetable diet was recommended by Dr. Twitchell of New England, from the result of a case under his treatment, but I fear it only adds to the broken-down condition of the patient.

Internally, all the more powerful articles of the Materia Medica (arsenic hardly yet abandoned) have been tried and found wanting. Locally, the actual cautery, Vienna paste, chloride of zinc, chromic acid, bromine, and latterly the solvents of cancer cells, such as acetic, citric, and carbolic acids have been, by turns, the favorite, but have failed in the end to justify the anticipations of their advocates. Excision of the cervix has been tried extensively by the French surgeons, and in a more restricted way by others. But the task is so hopeless, and so dark with painful forebodings,

that we shudder when we are summoned to take charge of such a case, and to bid our patients, like the Third Richard, "despair and die."

It is with a desire of abridging such scenes as this, and if possible to place the uterus in a position where it can be daily inspected and rationally treated, that I have to propose the induction of procidentia by artificial means.

Is there anything in the anatomical relations of the uterus to forbid the effort? Bear with me while I condense a statement of these relations. "This organ is attached to the bladder and rectum by folds of the peritoneum, which are sometimes called the anterior and posterior ligaments. The peritoneum reflected upwards covers the anterior and posterior surfaces of the uterus enclosing the organ between two of its layers. These layers meet together at the sides of the uterus, and pass off to the lateral walls of the pelvic cavity, dividing the pelvis transversely.

In this way the peritoneum forms the principal part of the broad ligaments. The fibrous or muscular structure of the uterus itself also extends into these ligaments. They contain besides the Fallopian tubes, the ovaria, the round ligaments, with blood vessels, nerves, and lymphatics. The round ligaments arise from the upper angles of the uterus in front of the Fallopian tubes. From this origin each ligament passes to the inguinal ring, descends the inguinal canal, turning round the epigastric artery, and its fibres are inserted into, or are mixed with the structures of the mons veneris. The length of the round ligaments is from four to five inches.

The external transverse fibres of the proper substance of the uterus are prolonged into the round ligaments, of which they form a constituent part. Some fibres of the internal oblique muscle also enter the lower part of the canal, and extending upwards, contribute to the formation of the ligament. The ovaria are connected with the uterus at the point of insertion of the Fallopian tubes by a fibro-cellular cord or ligament, prolonged from the proper substance of the uterus (Tyler Smith). The womb rests upon the upper end of the vagina, which encloses its cervical or neck portion, and keeps it up in its place, by means of its connection with the bladder in front, and the rectum behind, and more

than all, by two utero-sacral ligaments, which tie the upper ends of the vagina and womb to a certain place about an inch and a half in front of the apex of the sacrum. As long as the utero-sacral ligaments remain in a healthy state preserving by their tone a due length, the womb cannot fall downwards or prolapse, because the cervix, being enclosed within the upper end of the canal of the vagina, cannot move down unless the upper end of the vagina move down also. Prolapse pulls upon and stretches all the ligaments—the broad ligaments by far the most. The vagina suffers displacement proportionally with the prolapse. It is inverted, its walls being doubled upon themselves, and its cavity progressively shortened until it is entirely effaced.

This displacement is always in a direction corresponding with the axis of the vagina and different portions of the pelvis, and follows the curve formed by the hollow of the sacrum and continued by the perineum (Byford). There is nothing then to prevent prolapsus of the uterus but the tonicity of the ligaments suspending it, and holding it from above, and the vagina supporting it from below. When the uterus is enlarged and presses down, and when the ligaments are relaxed and weakened by long continued strain, or an impoverished condition of the system, prolapse is apt to occur *spontaneously.*

"Does the disease itself (cancer) change the parts so early as to make the effort dangerous?"

There is a singular unanimity among writers as to the part in which uterine cancer begins, and from which it extends itself. Prof. Rokitanski, of Vienna, whom Simpson pronounces "perhaps the most experienced and profound morbid anatomist of the present day," says "carcinomatous induration generally limits itself to the vaginal portion and cervix, and very often in a defined and sharp manner." In another paragraph he remarks, "the primitive seat of cancer is always the cervix uteri, and first of all and particularly the vaginal portion." The primary appearance of cancer in the fundus uteri is limited to so extremely rare cases, that what we have just said remains one of the *most fixed rules.*" It forms, he adds, in this respect a contrast with fibrous and tuberculous tumors of the uterus."

"Uterine cancer," says Professor Walshe, a very high authority

"is commonly primary, and possessed of comparatively slight tendency to contaminate the system generally." And again, there can be no question that the womb ranks among those organs less prone than certain others, as for instance the mammæ and testes, to contaminate the distant viscera. Among thirty-seven females dying of uterine cancer and examined by M. Ferrus *seven* only exhibited secondary formations elsewhere." Scanzoni remarks, and his experience is worthy of attention, for he has tabulated one hundred and eight cases treated by himself in eight years: "Among all the parts of the uterus, it is almost exclusively the vaginal portion which is the starting point of the disease; in fact although observations exist of cancers which are developed in the body, or near the summit of the uterus, while the neck was entirely untouched, or elsewhere, the infiltration was equally spread throughout the organ, such cases ought to be considered as rare exceptions."

The progress of the growth is very generally from the neck upwards, and from the interior of the cavity outwards. It struggles on in this way for perhaps six months on an average, before the infiltrations extend to the vagina and peritoneum, and finally to the rectum, bladder, and inguinal glands. In younger persons, menstruation seems to hasten the development, but after its cessation, at the change of life, the advance is slower. It is plain then that we must limit our efforts to produce artificial procidentia to the early period of this disease, while yet the uterus is moveable, and before the peritoneum is involved, as we would risk producing intense peritonitis by tearing that membrane if diseased, besides the utter hopelessness of ultimate cure when the abdominal structures are already implicated.

At this stage, too, you avoid the hæmorrhage incident to bruising the fungosities, which at a later period shoot from the neck. The cancroid or epithelial form presents the most hopeful aspect from its later tendency to deep ulcerations and adhesions. Its character is well given by Virchow, who first recognized it in the list of papillary tumors. Mayes says it is not a cancer, but a peculiar excrescence of the female genital organs. At first it is purely local, and nowise constitutional, but after a time it assumes a cancerous character. The enlarged papillæ are covered

with looped capillaries which abundantly supply them with blood, and present that red strawberry appearance which bleeds on the slightest touch. Subsequently cancroid deposits take place deeper among the muscular fibres and connective tissue. The scirrhus or fibrous comes next, and may in a few instances be seen early enough, but the encephaloid will be apt to have advanced so far as to baffle all our efforts, and to forbid the attempt to bring the organ down.

I proceed to the next point—the best plan of effecting procidentia. Two modes suggest themselves: one is to attach a wire to the cervix, by passing it around or through the latter, and by suspending a moderate weight to it, by which we may tire out the ligaments. This is open to the objection of being very slow and disagreeable, and confining the patient to the recumbent or sitting posture; and also that the wire might irritate or cut out if much traction was necessary. A gum-elastic cup and cord might be substituted, by which, the air being exhausted, a firm but slight pull could be kept up, without the inconvenience of the wire and weight.

The plan that seems to me most feasible, is to place the patient under the influence of chloroform, so as to obtain the double benefit of complete relaxation of the tissues, and the protection of the patient from the suffering and shock induced by the anæsthesia. By means of Museaux hooks the uterus can be pulled down gently, following the axis of the pelvis and vagina until it reaches the vulva. This can be repeated two or three times a week, watching the effect on the patient, and endeavoring at each trial to protrude it a little further. In two months we might hope to establish complete procidentia, and accustom the patient to it, so as to avoid the sinking and nausea attendant on the operation. Large doses of opium such as are used after ovariotomy, and in puerperal peritonitis, might be resorted to for the purpose of establishing toleration, after the prolapse was obtained.

Is extirpation of the cervix uteri necessarily dangerous?

It will be remembered that this operation was first suggested in modern times, and performed by Osiander, of Gottingen, about the year 1822, and that soon afterwards it was brought into vogue by Lesfranc, who reported ninety-nine cases, with a loss, I think, of only fourteen.

This was in a formal dissertation submitted to the French Academy.

It will also be borne in mind that M. Panly, who was an interne at La Pitié at the time, proves conclusively that these statistics are entirely unreliable, many of the cases having been reported twice under different names, and a large number dying between the first and fourth day. Again he furnishes a list of nineteen cases in private practice, where, under the same operator, the mortality was nearly one-half.

This would seem to make against rather than in favor of the operation; but when we consider that, at that day, the diagnosis of cancer was very imperfect, and that the cases were operated on without any reference to the stage of the disease, it is only a matter of surprise that so many of them should have recovered.

It would seem that the operation had never attained any popularity in Great Britain until revived by Simpson, who reports eight cases, six of them successful, and only one proving fatal. Three of these cases cured were cancerous.

So far as regards the dangers of the operation, Simpson remarks, that he has not met with troublesome hæmorrhage, although using only the bistoury and scissors, and that the shock which is described as being so fearful by many writers did not occur in any of his cases.

Chaissaignac, since the invention of his écraseur, has again popularized the operation in France, and must have performed it many hundred times, extending its application to hypertrophies of the neck and even ordinary prolapsus.

By his instrument all danger of hæmorrhage is removed, and by the use of chloroform the shock is much lessened or entirely obviated.

Dr. J. Braxton Hicks says, "he has operated or been present in more than twenty-eight cases, and has never seen any fatal result or any untoward symptom whatever."—*Guy's Hospital Reports.*

Any one who glances over the medical journals of late years, is struck with the frequency of this operation and how little danger is attached to it, and all the systematic treatises now recognize it as justifiable, not excepting Scanzoni, who is ex-

tremely conservative and cautious in recommending surgical interference.

In point of fact, Sims's favorite operation of bifurcating the cervix for the cure of dysmenorrhœa is quite as severe, the incisions being as extensive, though in an opposite direction. I may add that he seems to fear hæmorrhage more than most surgeons, tamponing with perchloride of iron to prevent it, and cautioning against its removal or any exercise for three or four days.

Can the uterus be removed without a fatal result?

I do not wish to dispute the assertion that it is one of the most dangerous operations in surgery to attempt its removal *in situ*.

Statistics conclusively prove that out of nineteen cases quoted by Breslau, two only had succeeded—Langenbeck's and Recamier's—Sauteis is mentioned by some authors as a third, although the patient died in a few weeks after of a colic. Blundell performed the operation three times, only once succeeding. His method of operating, by retroverting the organ and pulling it out by Douglas' cul-de-sac seems to me the most feasible. I saw an uterus after it was extirpated by Dr. Paul Eve, then of Augusta, Ga., in 1850. The patient lived for several months afterwards, but died subsequently from a return of the cancer.

Dr. Storer, of Boston, removed last year a large tumor, containing the womb and appendages, from a patient who is represented as having made a good recovery. In such a case you have many of the same difficulties to be overcome and dangers to encounter as in oviarotomy.

"Apart from the cases in which nature has done more than half of the duties of the operation, by precipitating the organ out of the vulva; by isolating it from the important parts with which it is in relation in the ordinary state; by having also prepared the way, by long habitude, for the void, which the absence of the uterus occasions in the pelvic cavity. Apart from these cases, in which the ablation is easy and little painful, *and attended with certain success*, the extirpation of the uterus constitutes one of the most frightful operations, even to the rashest surgeon, and is the most dangerous to the patient. This is the admission of Duparcque while denouncing the operation, and is well worthy

of our attention. For if spontaneous procidentia deprives this most terrible ordeal of all danger, then we ought to imitate Nature's plan of effecting such a displacement preparatory to the removal of the womb. Women have been known to cut off the prolapsed womb with an ordinary knife, and many surgeons have amputated the organ to relieve patients from the inconvenience of the dragging and discharges, especially after inversion. Sims reports such a case in his late book, and Dr. Choppin, of New Orleans, relates a case of prolapsus in the February Number of the Southern Journal of Medical Sciences, cured by ablation. He jestingly remarks that the woman was afterwards presented to the Class "with her womb in her hand," thus demonstrating that the uterus could be removed without causing death.

The advantages, then, of treating uterine cancer by means of artificial procidentia are, that you can make your applications with more accuracy and certainty,—that the vagina will be less excoriated by the discharges, and that adhesions cannot be formed in such a way as usually bind the womb above;—that day by day you can watch the progress of the disease, and if you find it encroaching on the cervix, it can be cut off in a few moments by the scissors, or more slowly by the ecrascur—and lastly, if the cancer still advances, and implicates the body, a way has been prepared for its entire removal.

For I think the evidence is conclusive that toleration of the procidentia is equivalent to toleration of the operation for removal.

Another point here comes up, the justification of any or all surgical operations in cancerous tumors.

In 1850, I heard an able report read by Professor Mussey, of Cincinnati, against the propriety of such operations, founded on the experience of American surgeons, but I think quite a change has occurred since then in medical opinion. Mr. Birkett, of Guy's Hospital, London, published a paper in 1866, giving his experience in one hundred and fifty cases, covering a period of eighteen years. It is carefully prepared, and his deductions are given with great circumspection and are entitled to much respect. He sums up by saying: "In conclusion, I trust that I have demonstrated

to my sceptical professional brethren, that a certain proportion of cancer patients can receive benefit by submitting to the removal of the first growth of the disease, and that the benefit derived from the operation is twofold, viz: 1st, prolongation of life; 2d, exemption from disease for a considerable period of time in many instances."

It may seem irrevelant or superfluous to have discussed the surgical questions alluded to in this essay, but I do not think artificial procidentia justifiable, unless surgical interference in all its various grades may be resorted to with propriety.

To recapitulate. I have endeavored to show, 1st, that there is nothing in the anatomy of the parts to prevent the induction of procidentia, but that in fact it occasionally occurs spontaneously. 2d. That in the early stage of cancer adhesions do not exist to such an extent as to render it dangerous or impracticable; and, 3d, that applications of caustic can be made more accurately to the prolapsed organ; and that amputation of the cervix, and, in extreme cases, ablation of the entire uterus, can be practised with safety under these circumstances.

I am aware that it may be said that all these operations can be performed without all this long preparation and infliction of suffering, but my own experience warrants me in saying, that the old plan has invariably failed in our hands in arresting the disease, and anything that offers more chances of success should not be discarded without a fair trial.

I am sorry, however, to be obliged to confess that this paper was prepared about eight months ago, and during the interval that has elapsed, I have not found a case in a sufficiently early state of development to enable me to apply the proposed method.

ART. V.—*Bilious Remittent Fever:* By Dr. W. B. HARVEY, Canton, Miss.

I AM aware that, in presenting myself before the profession as an essayist, upon a subject which has engaged the best talent, both in ancient and modern times, I expose myself to the imputation

of presumption; yet, since our profession owes its existence, in some measure, to contributions from very humble sources, and believing that none of its members have a right to withhold any light which their experience may have shed upon any subject pertaining to the profession, I venture to ask a little space in your Journal for a few practical remarks upon the disease which heads this article.

Of the many achievements of medical science, one of the proudest is the success with which bilious remittent fever has been treated within the past thirty years. It is a fact of history, within the recollection of many veteran practitioners, that the subject of this disease was fastened to his bed from ten days to three weeks, and if he survived, such was his condition and appearance, having undergone a process of bleeding, vomiting, purging and starvation, that one might imagine him indebted to galvanism for any signs of life he exhibited.

The success attendant upon the present system of treatment is in proof that the disease has been shorn of much of its terrors, and that the profession has made a giant stride forward, yet, since ours is a progressive science, and since this is a disease with which we have so much to do, we should not rest in the conclusion that we have reached the goal of investigation; rather, encouraged by the past, we should push our investigations to the utmost limit of inquiry.

I know not how it may have been with others, but I confess that while I treated this disease upon the present plan, I felt much less painful anxiety than formerly about the result; yet I was not without anxiety, and felt and lamented the want of a more efficient plan of treatment. I wanted to be armed with weapons which would inspire me with the confidence of a general of an army, who, in joining battle with an enemy, feels that he is "master of the situation." The present mode of treatment proceeds upon the *expectant* idea—of what is called a preparatory course—of purging, sweating, etc., preliminary to the exhibiton of quinine, which is given in the remission, with the hope of mitigating the exacerbation, not with any expectation of jugulating the fever; and thus, from day to day, is this routine continued, until

at the end of four or six days the fever is gone, and the physician congratulates himself upon his skill and his patient upon his speedy recovery. This is but a sketch of my own experience with this disease, which for years perplexed me not a little, and which, more than any other, has been with me a subject of theoretical and practical interest for thirty-six years. As my only object is to furnish the profession with a practical hint, I proceed, without indulging in theory, to give my method of treatment, which, if I am not under a gross delusion, may justly challenge the confidence of the profession.

Regardless of the stage, grade or duration of the fever, the patient is directed to take a half gr. sulph. morphia, incorporated with grs. xv of blue mass, to be followed in half an hour by grs. x of sulph. of quinine (in pills), and at the same time a warm foot bath, the vessel to be placed in the bed and the feet kept in it for half an hour. The dose of quinine to be repeated in two hours. This, together with a little castor oil in ten hours, to prevent ptyalism, is the sum of the treatment, and the result, in my hands, has been a profuse perspiration and a speedy subsidence of all the symptoms—pain in the head and back, thirst, etc., etc. The fever may be expected to be subdued in four or six hours. While all must regard such success as a great desideratum, many, I am persuaded, will receive my suggestion with distrust, and few, I apprehend, will have the boldness to subject it to a practical test.

ART. VI.—*Eclampsia; or, Puerperal Convulsions:* By D. WARREN BRICKELL, M. D., Professor of Obstetrics, etc., in the New Orleans School of Medicine. (Continued from November No. Southern Journal of the Medical Sciences.)

LECTURE.

GENTLEMEN—We have now viewed our subject in its mere phenomenal aspects, in its relation to other affections, more or less kindred, and in respect to its causes—predisposing, exciting and

incidental. Still, we have failed to make evident the *essential* vitiation. This remains a secret yet to be discovered. For myself, I distinctly incline to the belief that it lies in the blood, and may be the result of physiological perturbations the result of the establishment of the condition called pregnancy, or of interruption of elimination of fœtal debris, or of disease, whether prëexistent or intercurrent, or of hereditary infirmity, which is not usually admitted by our profession to be disease, and yet is as much so as the acutest case of diarrhœa or pneumonia. I say to you again, that I have never seen a thoroughly healthy woman pass into and go through a strictly normal labor and exhibit even a threat of Eclampsia. That a healthy woman, subjected to protracted second stage labor can go into Eclampsia, there is no doubt, but I have shown what protracted labor can do besides inducing convulsions. I have been called to assist cases of Eclampsia, and have been told by medical attendants and midwives, that "she was laboring along perfectly well, and suddenly fell into this state"; male and female friends have declared that "she was the healthiest woman in the world"; but when I inquired closely, I have found that the poor woman had lost the liquor amnii and been in severe expulsive labor six, eight, twelve, or even twenty-four hours. In this the believer in the omnipotent *vis medicatrix naturæ* can see no cause of trouble, to him it is but a "natural process," or, at worst, *only* "difficult labor"; to me it is a condition full of cause of danger to both mother and child.

So, also, during gestation, I have never seen a *healthy* woman the subject of Eclampsia. Antecedent to this terrible condition are signs of positive disease, and generally long antecedent. A woman is dyspeptic, or constipated, or has headache or vertigo, or is œdematous—some distinct sign of disease exists long (that is a few weeks or even months) before she falls into convulsion. In truth, as I have before told you, my observation is that all these cases of *ante-partum* Eclampsia are cases of distinctly impaired or delicate constitution. I have seen what the world calls "stout women" in this condition, but close inquiry proved that they were simply obese—not healthy.

The great important feature that distinguishes true *Eclampsia*

gravidarum is the loss of intellect. In all the other convulsive or spasmodic conditions to which we have alluded, from those which are physiological and simple to those which are gravest, with one exception, intellect is comparatively intact. That exception is found in Epilepsy, and a great peculiarity of this affection is that there may be complete intellectual annihilation for the time being and no convulsion at all. Now, I have watched eclamptic cases very closely, and I am sure that loss of intellect exists before the visible spasm takes possession of the woman. Even before the first slight twitches of the eye or mouth are seen, intellect is suspended, and if you will question these patients closely, you will find that they remember no spasmodic or convulsive warning. But there is another condition which I believe to be constant, and if it does not antedate intellectual loss it is, at any rate, distinctly coëxistent. I refer to positive interruption of respiration. Watch the woman who is just about to pass into what is called "puerperal convulsions," and you will find concomitant with the gaze which precedes the first twitches about the eyes and mouth a suspension of the act of respiration, and thus throughout the paroxysm respiration goes on, if at all, to the most limited extent. My own theory about the matter is, that the first spasmodic act is connected with the glottis, that it persists throughout the paroxysm, and that all other spasmodic acts are vastly inferior in importance. Now Epilepsy closely simulates all this, and Hall attempted to explain the disease on this basis, suggesting as a remedy tracheotomy—the object being to admit air into the lungs from a point below the affected glottis. The remedy resulted in disappointment, however, as it simply covered a symptom, and not the disease itself. So in Eclampsia. I never see a case that I do not feel the impulse to open the trachea; yet I know that I could not thus hope to put a stop to the disease. Spasm of the glottis is but one of the train of muscular phenomena we witness. Through this spasm it is true that respiration is vastly impaired, and that blood vitiation must increase, but from tracheotomy we could only hope for mitigation of existing trouble; the *cause* of the general spasm lies hidden still.

The fact is, gentlemen, we have not yet made sufficient advance

in physiology to warrant us in expecting to fix even the point of cerebral or cerebro-spinal trouble in this or kindred affections. No man can point me to the exact source of the convulsive phenomenon called laughter; nor can we tell how it is that strangely different excitants, as humor and titilation, will produce the same convulsive act; nor do we know how it is that the hysterical woman labors under the same convulsive act, yet is not influenced by either humor or tickling. All, all this is yet to be learned, and so have we yet to learn how a wound or exposure to weather produce tetanus without impairing the intellect, or how pregnancy or labor, or both combined, produce what may be termed tetanus *plus* annihilation of intellect. Let us not despair, however, for physiology and pathology go hand in hand, and progress has not ceased.

Treatment.—But, if I have approached the general consideration of the subject *Eclampsia gravidarum* with a sense of real responsibility, and have at last to acknowledge that of the really essential cause we as yet are ignorant, how thoroughly must the conviction pervade me on entering on the special consideration of its treatment, especially as you who are listening to me stand in the relation of pupils and must be expected to be, to a great extent, guided in practice by what I say in this lecture room. The skeptical listener might say—not knowing the essential cause, you cannot know the proper treatment. I reply, we are not wholly ignorant of what is causative; on the contrary, observation has taught us much, and on this we are fully warranted in acting until such time as further revelation will afford us the means of more nearly approaching the fullness of our desire. To ignore a part because we do not know all, and to abandon the suffering woman to mere charlatanry, would be criminal. A half loaf is better than no bread. The greatest difficulty before the student is the discrepancy he may encounter amongst teachers. With the same phenomena presented me in practice, with the same knowledge of the observations of others—in other words, working with the same material, I find myself interpreting things differently from the great majority of authorities, and, consequently, forming different conclusions and taking different action.

But, as I have often told you before, receive *no* teachings without reflection. *Audi alteram partem.* You have brains; exercise them. When you come to behold Eclampsia, look for yourselves, and not through another man's eyes. Try to see all that he has seen, and as much more as possible; or if you fail to see all he has seen, acknowledge it. The observation and advice of those older than yourselves are valuable, but they do not constitute professional *gospel.* I always feel a pitying sorrow for the professional man who utterly ignores "the books," or the counsel of his brethren who have seen more than he has; but he is equally pitiable who has no judgment of his own and blindly pins his faith, and hence his practice, to the doctrines emanating from even the most enlightened men. There is one thing certain, the treatment of Eclampsia is not yet fixed by the Profession on a broad and safe basis; the conflict of opinion is too great, and there is room for more thinkers.

The first thing I would do is to beg you to guard yourselves against a one-idead system of practice. I would have you steer clear of that fatal rock on which so many wreck—viz: "It is Eclampsia; the books say such is the treatment," and treat accordingly. Like all other practitioners before you, you must and will encounter variations in age, temperament, condition of general health, condition of life, and all the circumstances which modify disease in all its forms, and in Eclampsia, as in all other affections, you must, if you are intellectually independent, modify your practice according to circumstances. Like the prudent mariner, while acknowledging perfect obedience to the principle or principles which underlie the work before you, forget not that the winds are shifting and the seas are often chopping. It is impossible that so-called authority can tell you in advance how to treat in detail every case that is to come before you. They can tell you on what great general principles your cases are to be treated, and on your judgment the patient must rely for details. Indeed, as matters now stand, the well educated beginner is forced to enter the sick-room with conflicting ideas of these very general principles, and through the study of cases he must make his election.

There can be no question that up to the present time the preva-

lent theory in relation to the prime cause of Eclampsia finds its full expression in the single word "plethora". The woman is too full of blood. Hence, depletion is the remedy; venesection is the best mode of depletion, and this must be carried out to its fullest extent. In the language of Hodge—"With most patients fifteen or twenty ounces must be regarded as a small bleeding; double, treble, and, occasionally, even more, must be taken to insure safety. In plethoric patients, in one or more hours the operation must again be repeated to the extent of twenty or thirty ounces, and occasionally the patient will tolerate even two or more bleedings." So that in plethoric patients, so-called, sixty or eighty ounces of blood may be abstracted, and "in one or more hours," this operation may be repeated to the extent of twenty or thirty ounces. Or, in the course of one or two hours, we may abstract eighty to one hundred and ten ounces. Physiologists estimate the quantity of blood in the system of a healthy man at twelve pounds avoirdupois, or one hundred and ninety-two ounces; so that more than half this fluid is to be abstracted in the class of cases named. This is what is termed the "bold practice." The idea is, not that the blood is deteriorated in quality, but that it is simply superabundant, and that the superfluity must be let out. But, as I have told you before, feeble, delicate, positively diseased women, have the most intense and dangerous attacks of Eclampsia. But these must be bled too. Hodge says: "that in many who are feeble and delicate, small bleedings should only be employed, there can be no doubt." But if it be true that in the first class named—the strong and healthy—plethora exists, and consequently bleeding is indicated, and to the extent named, is it possible that in "the feeble and delicate" the same superfluity exists, and the same remedy is to be employed? To my mind, we here encounter one of those strange contradictions that is at least calculated to make us stop and think seriously before we act. If bleeding is right in the one case, it must be wrong in the other; unless we adopt the short-hand reasoning, that a case of Eclampsia got well after venesection, consequently all cases must be bled.

The general idea with the advocates of the lancet seems to be that this plethora causes Eclampsia; the exceptional idea with them is that blood must be abstracted to prevent local conges-

tions. On this latter ground they even bleed "the feeble and delicate". Now, I find it very singular indeed, that in the disease most closely allied to *Eclampsia gravidarum*—viz., Epilepsy—, and in the stoutest individuals affected, venesection is not thought of at all; certainly it is far from being regarded as the sheet anchor of the practitioner. Indeed, in none of the convulsive or spasmodic diseases we have alluded to is this plan of treatment urged, unless it be that Apoplexy be classed as convulsive. Theoretically, I do not know what a man means when he tells me that he bleeds because the woman is too full of blood, and either because this superfluity, in his estimation, causes the eclampsia, or because it may result in grave local congestions. A woman passes all the way through the term of pregnancy in a condition of health, she goes into labor in health; all this time there is no sign of eclampsia. For some reason, however, labor is delayed, protracted effort results in eclampsia, and now it is ascertained that "plethora" lies at the bottom of the trouble, and the lancet is the remedy. Or a positively feeble and delicate woman, in the course of pregnancy, is seized with eclampsia; it cannot be contended that she is "plethoric", but the convulsions or spasms may end in local congestions, and she is bled to avert this condition. In the first case the patent cause of the woman's trouble is made of secondary consideration, and she is bled to stop the evil on the naked theory that she has too much blood in her; in the second case, it would be silly to cry "plethora", but "local congestions" must be *prevented*, the legitimate effort to arrest the existing evil (eclampsia) is made of secondary consideration, and the effort is made to avert an anticipated evil.

To my mind, the whole theory of this "bold practice" is utterly wrong and where I have seen it put in practice the results by no means satisfy me. All our so-called "text-books" on Obstetrics come from climates differing greatly from ours; we have English, Scotch, French, German, and so-called Northern—that is from the Northern States of this country. I feel great delicacy in saying that the practice is wrong where the authors of these books practice, for we do know that climate exerts a strong influence in modifying disease and the means of relief of disease. In the face of the fact, however, that no author tells us, when extolling the

"bold practice", just what per centage of mortality he encounters, while I repeat that the results of bleeding here are by no means satisfactory, I cannot be blamed for suspecting the same condition of things elsewhere. We lack really reliable statistical information on this point. When an author tells us that bleeding is the sheet-anchor in Eclampsia, he should tell us how many cases he has treated thus, and what proportion died; then those who have pursued a different plan of treatment will be enabled to compare results.

But I will to some extent illustrate the position I have taken on this point, by describing a few cases as I have seen them, and I assure you that the picture I draw is faithfully from nature. I should be grossly derelict did I use a selected few bad cases to exhibit only one side of the question.

Case 1.—A few years ago I was called in a great hurry to see a young Spanish lady, an entire stranger to me, and said to be "in convulsions." The family physician could not be found, and I was called in the emergency. I found a beautiful young woman, apparently robust, said to be seven months advanced in her first pregnancy. As I entered the room with the husband, a physician very much my senior, and who had been called in as he was passing the door, was in the act of untying the left arm, to which he had promptly applied the lancet. The nurse was also in the act of removing a large white wash bowl piling full of coagulated blood. The doctor and I exchanged salutations, when the husband, running to the bed and finding his wife perfectly insensible, threw himself between us and frantically demanded of the doctor what he thought of the case. Simultaneously with this demand the patient passed into a hideous spasm. Glancing at the patient, the doctor replied to the husband—"I think, sir, your wife will die;" and, addressing me—"I have carried out the practice of all authority, doctor, and you see the convulsions continue. I think I have taken all the blood she could afford to lose. She fainted completely under the bleeding." The doctor essayed to wash his hands, and I approached the patient. I soon ascertained that the lady was considered seven months advanced, that she had been quite well until within the past three or four weeks, during which time she had been under the care of her

family physician for severe headache, constipation and puffiness of the face and extremities, and general *malaise*. I also learned that these spasms had only manifested themselves in the past two or three hours, but that she had had four or five up to the time of being bled. I also learned that previous to the advent of spasm she had complained of what the nurse thought must be labor pain, that she had evidently had a "shew," but that no vaginal examination had been made. While I was gathering this information another spasm came on, and, placing my hand on the abdomen, I was satisfied that the uterus was contracting actively. All this time the patient was comatose. The doctor seemed utterly despondent about the case, but in deference to his seniority, as well as his priority in attendance, I asked him if I might make vaginal exploration. He acquiesced, and in a moment I reported to him an os uteri dilated to the size of a silver dollar, with dilatibilty of tissue, membranes entire, and head presenting. Quickly the patient passed into another convulsion, but, keeping the fingers in the vagina, I asked again if I might dilate, turn, and deliver. The doctor readily assented, and I effected all in less than half an hour. During this time, however, two more convulsions or spasms appeared. Delivery accomplished, and the uterus contracting so as to prevent hæmorrhage, I sat down by the patient to watch for the moment when she could swallow stimulants and food. She had *not another sign of spasm from the moment of delivery*, and in less than an hour she was sufficiently aroused to swallow. I now arose to leave her with the doctor and her family physician who had arrived in the meantime. When we walked to the head of the stairs he remarked—"Well, she will disappoint us at last and recover." I replied—"I fear not, doctor." Oh! surely she will," said the doctor. "No, sir, she has lost nearly all her blood; the intellect will soon be clear, and she will give promise of recovery, but I fear she will lapse into the typhoid state and die in less than a week. Had she all or half the blood in the basin back in her veins, I am sure she would recover. I advise that she be carefully fed and stimulated, but above all things I advise immediate transfusion."

Next day I was called to see her in consultation. She was thoroughly conscious, thanked me for having delivered her, had

had no more spasms, had slept some, but could retain little or no food or stimulus. Her physicians were sure of her recovery. I told them that her pulse was very frequent, her tongue was drying, and digestion was paralyzed. I again urged transfusion to save her. I saw her no more, and three days after she died.

Case 2.—A year before before the war I was called to take charge of an Eclamptic patient living on the New Basin in this city. I found a young woman in labor with her first child. She was lying in a perfectly comatose condition. I was told that she had passed smoothly through the period of gestation, and was well and hearty and cheerful up to the beginning of labor, nearly twenty-four hours before my visit. I also learned that she had been in the second stage of labor more than twelve hours, and had been having convulsions during eight hours. A physician had been in attendance, and he had bled her profusely without the least mitigation of symptoms. He had, also, purged her freely, and had administered chloroform without limit. Still the friends could perceive no relief, and he had uttered a distinctly unfavorable prognosis, but seemed unwilling to confer with other medical men. Under the circumstances, the husband had discharged him and called me in. I examined per vaginam and found her in the second stage of labor, but with an os uteri decidedly, though not excessively, rigid. She was entirely unconscious, but excessively restless, rarely lying still for a minute, moaning piteously, and having a furious spasm every ten or fifteen minutes. The pulse was very frequent and feeble, the tongue dry, and indeed all things looking as unfavorable as could be well imagined. I determined to dilate the os uteri manually and to deliver as speedily as possibly. Accordingly I administered chloroform to allay the excessive jactitation, and proceeded to the operation. Within three-quarters of an hour (during which time she had several spasms in spite of chloroform) I delivered her, and she had not another spasm. On the contrary she soon dropped to sleep. She recovered, but after a long protracted illness, of typhoid form and distinctly the result of depletion.

Case 3.—A few years ago I was called to a very robust Irish woman in labor, who had had a number of convulsions, who had been profusely bled and freely chloroformed, but in whose case

the convulsions continued without abatement. She was profoundly comatose when I saw her, and the paroxysms recurring rapidly. External examination revealed the existence of large fibrous tumors of the uterus which evidently prevented efficient expulsive action. I applied the forceps and delivered in a few minutes. There was not another sign of spasm after delivery, though there was a fearful one during the operation. The woman recovered, though after a protracted attack of an asthenic nature.

CASE 4.—Last year I was called, at midnight, to a robust young woman, for the first time pregnant. I was told by her friends that she was about eight and a half months gone, that she had been remarkably healthy until within the past two weeks, during which time she had frequently complained of headaches, and had showed them her feet and legs very much swollen. About four o'clock that afternoon, or eight hours previous to my seeing her, she complained of very serious headache and passed into spasm which they described as fearful. A physician was immediately called in, and he bled her profusely and administered saline purgatives which acted promptly. Still the convulsions continued, until, on my arrival they had marked down on the wall of the room *forty-three*. She was now perfectly comatose, with a fluttering pulse and cool skin. The lungs were, also, vastly suffused with mucus, and the whole aspect of the case was desperate. I determined, however, to deliver, in the hope that I might possibly save the child. I succeeded in doing so with forceps, in less than three-quarters of an hour. She had several severe spasms during the operation, *but not one after delivery*. She never exhibited any evidence of returning consciousness, nor did she react for a moment. I was struck with the fact that she lost very little blood in the delivery, and the uterus contracted as promptly and thoroughly as I had ever seen one do.

I could cite a number of other cases, but these certainly fairly illustrate my experience with this plan of treatment. I will go farther, however, and say that although I have seen in the past twenty years quite a large number of cases of Eclampsia bled, I have never seen bleeding alone check the symptoms, and where the bleeding has been followed by improvement there has invariably been some powerful adjuvant, as chloroform, opium, de-

livery, etc. Before proceeding to the point of recommending a plan of treatment, I have thus undertaken to discuss the "bold practice", not only because I believe it to be wrong, but because I desire to lead the young mind from a blind adhesion to it, and induce you to think somewhat before you act. The zeal with which writers urge the practice is calculated to carry conviction to the mind of the beginner, and it is a sad thing to be forced from the beaten path only by dire experience.

Now, is there any specific treatment for Eclampsia? I say no. But there are general principles of action which, if carefully observed, will lead to very satisfactory results. No two cases of Eclampsia are attended by precisely the same circumstances; it is a formidable affection, in the management of which we must avail ourselves of everything, and I am sure that he who approaches the cases with a pet remedy will fall far short of the greatest amount of good that can be accomplished.

I have told you that I believe pregnancy to be the one great predisposing cause of the affection; that is, if a given woman to-day with the spasm were not pregnant she would not to-day be in this condition. I have shown you that where the favorite "bold practice" has utterly failed to allay the spasm, delivery has at once accomplished that desired result—that before delivery was accomplished the spasms continued, and as soon as delivery was effected the spasms ceased. This is the observation of the strongest advocates of the lancet. We find them telling us that in case bleeding does *not* meet the end in view, we must deliver. Meigs puts this point very forcibly, and yet he is an enthusiastic advocate of the lancet. At page 404, he says: "Under the dreadful circumstances of this disorder, one reflection ought to strike very forcibly the mind of the medical attendant; it is, that if the woman were not pregnant, she would not be assailed by the disease; and the inference very justly follows, namely, the pregnancy ought to be terminated in order to put a stop to the malady. * * * * * *, we shall enjoy a far better prospect of rescuing the woman if she can be delivered, than we shall if the womb remains unemptied". Again—"It is, therefore, always desirable that the patient should enjoy the benefits of as early an accouchement as possible, etc".—And then, at page 408, what?—

"The only real resource in the puerperal convulsion, is in the use of the lancet". And again—"the lancet, the lancet, and nothing but the lancet, is worth your confidence". Wonderful contradiction in almost a single breath! But it serves our purposes of illustration now, and will again as we proceed.

The great important point I would urge on you, then, is to bear in mind at the bedside of every case the fact that the constant predisposing cause is pregnancy. Then I would urge you to remember that in even the direst cases, even after the vaunted venesection has failed, we are directed to put an end to pregnancy as the means of relief. Then I would bring you back to the picture I have drawn in the relation of four formidable cases, and ask you to realize clinically the value of the demonstration. In a few words, remember that the woman is pregnant, and then remember that to place her in the non-pregnant condition is to afford her the fullest chances for recovery.

Then, you will say to me, delivery is the remedy for Eclampsia. I say yes; but not an indiscriminate and precipitate delivery of every case you encounter, without taking into consideration attendant circumstances. I freely say, that I believe if uniform delivery were substituted for venesection a greater number of women and children would be saved; but I will not say that uniform delivery will save the greatest number capable of being saved. Here, I think, I should be as extreme as Meigs is when he exclaims—"The lancet, the lancet, and nothing but the lancet, is worth your confidence". This is the rock I would have you avoid. I tell you that delivery is the most valuable single remedy, and that if I am confined to a single remedy I will save more lives with it than you can with any five other remedies; but I tell you there are cases that do not require delivery, and inasmuch as delivery prior to the viability of the child means certain destruction of that child, it is a clear proposition that delivery is exceptionally inadmissible. I will illustrate this thing.

Case 1.—Last year I was called in consultation to a delicate and refined little lady who had been for several hours suffering from Eclampsia. She was about six months pregnant. Her physician had been for several weeks treating her for headaches, puffy face and extremities, etc. When I saw her she had

had some five or six spasms, and she was now in a comatose condition. She had not been bled, but the effort had been made to check the spasms with chloroform and opiates. These, however, had signally failed. While we were investigating the case, a hideous convulsion occurred, and it was with great difficulty that she returned to a safe rythmic respiration. Her pulse was persistently quick, there was no essay towards return of intellect, she was very frail, she had evidently exhibited very disagreeable symptoms during the past few weeks, and now, so far from any mitigation of spasmodic symptoms, these were growing more intense. I advised immediate delivery as affording her the only chance of recovery, at the same time expressing my confidence in her being thus relieved. But the os uteri was not open. I advised that it be artificially opened by manual effort—that she had no time to spare for experiments for inducing premature labor. The fingers were at once applied; steady and careful pressure was kept up, and in less than an hour and a half the fœtus was turned and delivered. During the operation she had two spasms; about three-quarters of an hour after delivery she had a slight one, and no more after. In a few hours she was fully awake and recognized her friends. Her recovery was somewhat protracted, because of the vitiated condition previously mentioned, but it was complete, and she had no local trouble whatever.

Case 2.—I was called in consultation to a case of Eclampsia a few years ago, wherein nothing had been done. I found that the young woman, six months pregnant, had been for some ten or twelve days obstinately constipated, that she had been suffering bitterly from headaches, and had at last fallen into spasm. Examination revealed the rectum thoroughly impacted with fæces, and the pelvic viscera all in a most sensitive condition. Injections, carefully and thoroughly administered, cleared the bowels, and the spasms disappeared.

Case 3.—I was called to a case of four months pregnancy wherein Eclampsia had supervened without any apparent cause. Careful inquiry revealed the fact that she had recently jumped from a considerable height, and that she had since complained of

pelvic distress. Examination revealed a retroverted and incarcerated pregnant uterus. With difficulty it was restored, and there were no more spasms.

Now, Case 1 is an instance where I think nothing short of delivery, without reference to the child, could offer any chance of recovery to the woman. Cases 2 and 3 could offer no ground for delivery as a primary act, and such a mode of relief would have been an unpardonable destruction of fœtal life. In other words, in Case 1 there was no removable incidental cause of Eclampsia, powerful remedies had failed during several hours, and, in my opinion, to have delayed delivery would have been to deprive the patient of her best—yes, her only chance of recovery. In Cases 2 and 3, to any inquiring mind the incidental causes must be made manifest, and delivery could only be warranted when the removal of these had failed to effect relief. In these cases, too, we have the valuable lesson taught us, that venesection could have effected nothing—indeed, that a resort to it may have vastly, if not fatally, complicated matters.

I say, then, that the delivery of the ovum is the most prominent indication in the Eclamptic case, and what I would call successful practice hinges on the thorough recognition of this principle; but in all cases where the incidental cause can be defined, and when defined, can be removed, the removal should at least antedate delivery; and this is more especially important where the delivery would certainly, or even probably, compromise the life of the child. But I contend that where the incidental cause cannot be discovered, or, if discovered, cannot be removed, and the case is at all urgent, delivery is not only indicated, but more good is to be derived from it than from venesection or anything else.

In case a woman is positively in labor, whether at or before term, I contend that delivery is indicated both for herself and child. The longer a woman is suffering from Eclampsia, the more rapidly are her chances for recovery diminishing, and this is as true of the child. The common anticipation of practitioners is the death of the child born from the eclamptic woman, and I am sure the reason will be found in delay of delivery. If a wo-

man is in labor, and the way is open for delivery, I say deliver without a moment's delay. No man knows that the woman will not die in the very next spasm; or if she does not die, that her child will not; consequently, with means at our command for artificial delivery under other circumstances, and such means being altogether compatible with the life of both mother and child, or at any rate with that of the mother, it seems to me but madness to wait on labor. The fact is, that while it is very true that the uterus goes on acting for delivery in some cases as though there were no spasms, I am sure that in the great majority of cases, Eclampsia is distinctly interruptive, and manual or instrumental interference is a positive obligation. I cite a case here as illustration.

Case.—Last spring I was called to a case of Eclampsia of some twelve or fifteen hours duration. The woman was the subject of malarial poisoning to a grave extent. She had within the past three weeks been having intermittent fever, and had latterly been suffering from headaches, œdema of the face, etc. I saw her at midnight. She was supposed to have arrived at full term. She had had five or six severe spasms, had been bled, had taken opiates, etc. There was no mitigation of symptoms. On the contrary, the spasms were recurring, she was totally unconscious, and jactitation was setting in. Her physician announced that she had all day been in labor—that is, she had, even in her insensibility, displayed to him evidences of uterine action, and that digital exploration revealed the os uteri pretty widely open. The case presented a very unpromising aspect. I advised delivery as her only chance. This was acceded to, and I proceeded to the work. Touching the os uteri, I found it widely open and dilatable to any desired extent. Through the membranes I discovered that the head was evidently that of a small child, and that the sutures were well defined. I ruptured the membranes, expulsive pains came on at once, and in about three-quarters of an hour she delivered herself. After delivery she had one spasm, and then dropped to sleep. Her recovery was slow, for her malarial poisoning was very profound, and I think the abstraction of blood operated greatly against her.

Now, I am sure that in this case, although the os uteri opened freely for the exit of the child, as long as the liquor amnii remained *in utero* the uterus would have failed in action. As soon as the first step for delivery was taken (evacuation of the fluid) uterine energy was discovered, and the delivery was speedy. Even the life of the child was saved, though it was quite a struggle. I do not think it would have survived the recurrence of spasms on the part of the mother two hours longer.

But the great bugbear before authors and practitioners in this matter of artificial delivery is the so-called rude manipulation that may be necessary. I have cited you a case wherein all that was necessary was rupture of the membranes. This proceeding will surely not compromise the mother. I have cited another where I delivered with the forceps. This is an instrument devised for the *relief* of women and children, not for their mutilation or destruction, and it is simply puerile to speak of any dangers arising from its use for the relief of a woman suffering from so dire a disease as Eclampsia. I have cited a case in which a six months child was turned and delivered, and the patient recovered. When I can deliver with forceps I never perform version; but granting that version has to be effected even at full term, I can scarcely believe that an intelligent obstetrician can be found to say that it is more dangerous than Eclampsia. And again, I have cited cases wherein I manually dilated the os uteri, and that speedily, to effect delivery, and you have seen that the patients recovered. But this is the terror of the men who do not hesitate to abstract a wash-bowl of blood from a woman at one bleeding. They draw terrible pictures of physical injury inflicted on these parts, of subsequent inflammation etc., etc. They are not shocked at the death of both mother and child as the result of Eclampsia, but they are terribly so at the idea of a bruised and inflamed os and cervix uteri. The one they would seem to regard as a legitimate evil in the production of which we have no hand, and the direct result is as legitimate as the existent evil. The other is an evil we *inflict* on the woman, and that they revolt at.

Now, gentlemen, I confess I am rather impatient when I find obstacles such as I have alluded to thrown in the way of a rational practice. I say now and ever that no woman shall ever die of

Eclampsia in my hands for the want of delivery, let the terrors of such delivery be even as great as the student is so urgently persuaded they are. I will deliver by the forceps, by version, by artificial (manual) dilation, by craniotomy—aye, by Cæsarean section if it is demanded—before I will see my patient die. I will try to save mother and child, but the mother will be the primary consideration. I will never admit the worse than absurdity, that our means of delivery are more dangerous than the malady afflicting the woman. Take even that operation that seems to the bleeders so fraught with danger—manual dilatation. I have performed it again and again, and I have never seen the least evil result. I suppose a man *could* exert such force as to rend the parts he is attempting to dilate, but this would be a gross departure from the rule of common sense that could not legitimately be used as an argument against the operation. If the operation is carefully performed, my own belief, founded on experience, is that it will never injure. But let the worst come to the worst. Suppose, if you please, that the os uteri *will not yield*, that other remedies have been tried, even the "bold practice" itself, and that our patient is marching on to the grave; I say that, as we are justified in cutting the os in case of persistent rigidity under ordinary circumstances, so are we in Eclampsia. In fact, if it be a duty to cut the rim of a rigid os in labor (and it is by authority and common sense), it is doubly a duty when that labor is complicated with Eclampsia. So that you may absolutely cut the os uteri to pieces, and no evil will result. How absurd, then to shrink from mere dilatation.

Have we any other remedies than venesection and delivery?—Yes, a most formidable array, but only a few are worth your consideration. I have shown you the obligation to remove incidental causes, and the causes themselves point to the remedies. An overloaded stomach requires an emetic—the simpler the better; an impacted rectum demands enemata; a distended bladder demands the catheter; emotional disturbance, although never difficult to manage, points to its remedy; and so on to the end of the catalogue. Sometimes the mere removal of the incidental cause does not stop the spasm entirely, for once this condition is established, in many cases it is hard to control it while pregnancy

exists. Where we still desire to preserve the ovum, and the nature of the case warrants us in delaying, chloroform and opium will be found valuable adjuvants. If given, my opinion is that they should be given in full quantity—that is, chloroform to complete anæsthesia, and this continued for one, two or more hours, and not to the mere state of excitement; opium to its positively soporific effects, and not in dallying doses which exhilirate and increase raher than diminish the nervous phenomena. For myself, I confess that I have oftener been disappointed in these remedies than otherwise, though you find them much vaunted by the books. Of the two I prefer chloroform; it acts more speedily, and if there is any good to be derived from it we may soon know it; thus much valuable time is saved. Again, its effects are less permanent than those of opium and its preparations, it does not disturb secretion, nor paralyze digestion, nor produce constipation. Still, I do not discard opium, for I have succeeded in calming patients with its preparations when I soon found chloroform inefficient. The estimation in which I hold these remedies is this. When we desire to retain the integrity of the ovum, and the spasms continue notwithstanding the removal of the incidental cause, *sometimes* they will prove efficacious, but we must not look confidently for such results. In a *few* cases, where the integrity of the ovum must still be contended for, but the incidental cause cannot be discovered, we may find them checking the spasm. This I believe to be very rare, however. I know that prominent members of the profession think otherwise, but I believe their faith to be founded on cases simply simulating true Eclampsia. My conviction is, that the practitioner who long waits on the curative action of these remedies in a case where he cannot discern the incidental cause, or having discerned and removed it where the spasms do not cease, is fast depriving his patient of her best chances of recovery. It is a sort of hap-hazard treatment which I do not think warranted in a grave affection which is so readily controlled by removal of the predisposing cause.

Now there are remedies kindred to chloroform and opium, and which some practitioners use. I do not consume your time in enumerating them, because they will at once occur to you, and because I think them altogether secondary in value. My obser-

vation is, that where chloroform and opium fail, little is to be expected of their kindred.

But there are other modes of treatment noted in the books, as by purgatives, warm baths, etc. In any given case where constipation is the incidental cause, a purgative may be given coincident with the administration of enemata, with a view of insuring complete evacuation of the bowels after you have immediately controlled the spasm; and purgatives may be deemed advisable to prevent recurrence, or to prevent spasms which a given set of symptoms lead us to anticipate. All this during gestation, not in labor, where delivery is desirable rather than to be delayed. I confess I am surprised when I see women in labor, with Eclampsia, and waiting on the action of a purgative.

But let us try to reduce this subject of treatment to such a point as that we may comprehend it at a glance.

1st. If the woman is in labor, while it is meet that we remove any incidental cause manifest, let us make speedy delivery our prime object, and let us effect it by the simplest means possible, always, however, bearing in mind the fact that delivery is not to be delayed, because no means of delivery is as dangerous to mother and child as continued Eclampsia.

2d. If the woman is seized with Eclampsia during gestation, remove the incidental cause if possible. If the spasms recur notwithstanding, the cause being removed, chloroform or opium, or the kindred remedies, may now arrest them. If they do not speedily do so, delivery is preferable to delay. If the child in such case is strictly viable, the more forcible the indication.

3d. If the woman is eclamptic during gestation, or in labor, because of general vitiation, as in uræmia or malarial poisoning, delivery is the best chance she has for recovery. These are the worst cases we encounter, and are not to be expected to yield to anything short of delivery. Such vitiations *plus* a prominent and immediately removable incidental cause may exist however, and the removal of the latter may arrest spasm and enable gestation to be completed. The obligation to save the child demands the effort alluded to.

4th. If Eclampsia is *threatened* during labor, delivery is imperatively demanded, as to wait for the development is to invite com-

plication. If the threat exists during gestation, look earnestly for removable incidental causes, and remove them if found.

Here a most important point comes up for consideration. We have learned that certain vitiations are accompanied with marked threats of Eclampsia during gestation; we have learned that these are almost, if not quite, irremediable while pregnancy lasts, and we have learned that the establishment of Eclampsia makes a far graver case than any mere threats of such establishment. There can, also, be no question that the vitiations alluded to, and heretofore named, prove more serious as gestation advances, and that the probabilities of development of Eclampsia grow greater *pari passu*. Hence, with such vitiated subjects before us, accompanied with the recognized threats of Eclampsia, we are forced to regard the chances of falling into a spasm as rapidly increasing, and the probabilities of recovery from such spasm as proportionately diminishing. I have studied such cases practically, and I am satisfied the time is not far distant when we shall find delivery for the *prevention* of Eclampsia and its consequences an acknowledged means of saving maternal life at least. I am sure I have seen cases end fatally at full term that would have been saved by premature delivery. This phase of practice in this disease will, however, require the soundest judgment.

But you will ask me what are the results of the practice I have been urging in place of the "bold practice" I denounce. I'll state the same in a few words.

I have told you that I have never encountered a case of Eclampsia in a woman of whom I have had exclusive charge—that, although I have seen a great many cases, they have invariably been the cases of other physicians, or of midwives. I may, of course, be called to-morrow to take primary charge of a case of Eclampsia, either during gestation or in labor. Almost wholly, however, I attribute the fact named to my never allowing a woman to labor indefinitely for her delivery, and to my never depleting those threatened during gestation. I think the function of the obstetrician is to *help* the woman, if possible, out of every difficulty she encounters in labor, and so far from ever seeing a *healthy* woman with Eclampsia before term (that is, a woman surely suffering from mere superabundance of blood), all cases coming under my

observation have been positively sick; they have required repletion rather than depletion. As for positive results, I cannot now recollect a single case of death of the woman treated during gestation on the principle named, and where I have been called to eclamptic patients in labor, the results have often most agreeably surprised me. When I have delivered before a patient has been absolutely worn out, and where depletion had not been resorted to, the women have all recovered, and even where I have delivered after the "bold practice" had been previously carried to its fullest extent, I have often been agreeably disappointed by the recovery of the patient. I have no accurate data, of course, for such assertion, but my honest conviction is that if all eclamptic women were treated on the principles enunciated, the maternal mortality would not be more than eight or ten per cent, and I am sure that many more children would be saved than are now under the "bold practice."

There is one class of patients which may be considered the worst, but which, fortunately, are seldom encountered. I refer to the *post partum*. Sometimes the spasms continue after we have delivered, occasionally they first show themselves after delivery. My observation teaches me that we are to anticipate no such evil if we deliver *early*. It is only where the patient has been allowed to wear herself out, as it were, that the spasms recur. And in the still rarer class named, my observation teaches me that the condition is confined to the thoroughly vitiated and threatened who have at last been allowed to be too much depressed by the shock of labor—who have not been assisted.

We are thus pointed anew to the importance of observing strictly the principles of treatment laid down.

In encountering these cases I have found myself forced to rely on the anæsthetics and narcotics, but the results are not satisfactory. Perhaps, however, we have no right to complain, as these cases, in point of gravity, may be regarded in the same light as patients in the collapse stage of cholera.

Finally, gentlemen, the prognosis in Eclampsia is a matter calling for careful study. Prognosis and treatment are in direct relation with each other.

1st. The prognosis is more and more unfavorable as the intervals between the spasms are shorter. Under frequently repeated spasms the brain more rapidly succumbs, and exhaustion from muscular action is not only more speedy, but is cumulative. We may, then, where the spasms are recurring at intervals of two to six hours, find no indication for *speedy* action; whereas, if they are recurring every five to thirty minutes, action is the word.

2d. The prognosis is graver as intellectual annihilation is more profound and more persistent. In other words, the demand for action is more imperative as the intellect is more completely and permanently obtunded.

3d. The prognosis is graver in the subject of manifest blood vitiation, as in uræmia or malarial poisoning, and I think still graver where, with such vitiation existing for months during gestation, the spasms supervene on labor.

4th. The greater the duration of the paroxysm of spasms, the graver the prognosis.

5th. The longer the patient is allowed to remain the subject of Eclampsia, the graver does the prognosis become.

6th. The prognosis is rendered graver by the existence of any acute or chronic concomitant disease, or of any constitutional frailty.

7th. The prognosis is rendered graver by the existence of a manifest incidental cause which cannot be removed.

ART. VII.—*Cholera Morbus:* By W. B. HARVEY, Canton, Miss.

WHAT essential pathological condition is revealed by the phenomena characterizing cholera morbus, and what response does autopsy give?

All the symptoms are referable, upon principles of pathological law, to a cessation of the hepatic function; and such, too, is the decision of autopsy.

The premise admitted, what is the practical indication? Evidently to restore the function.

What agent can accomplish this? The united voice of the profession concedes this power to mercury.

But are not other agents necessary to combat the prominent symptoms—vomiting and purging? This is a question, the negative of which, so far as I know, is without a public advocate, and I am aware that in taking this position, I expose myself to attacks from every quarter.

The profession is slow (and properly) to accept any change in the established mode of treating disease, especially when that mode has been successful; and nothing but proof of an equivalent advantage can reconcile us to an innovation.

As intimated, the present method of treating cholera morbus is successful, and the only merit claimed for the proposed change, is the prompt relief it gives.

The change proposed dispenses with opiates altogether.

I am convinced that calomel alone allays the gastric irritation as effectually and as promptly without, as with the use of opiates; and not being retarded in its effect upon the liver by the opiate, effects a cure more speedily. Indeed, if I may speak from a not very limited experience, I assert with confidence, that cholera morbus may be cured with as much certainty, and within half the time, without, as by, the employment of opiates. Hence, instead of small doses of calomel, combined with opiates, repeated from time to time, as the fashion is, my practice is to apply a sinapism to the epigastrium, and administer, at once fifteen (15) grains of calomel floated on a spoonful of water, and allow no more water for two hours. Speedy relief has been the invariable result.

ART. VIII.—*Tape Worm:* By R. C. WORD, M. D., Atlanta, Ga.

THE extraordinary prevalence of tape worm since the war, has been a subject of remark by the members of the medical profession in this vicinity.

During the years 1865 and 1866, no less than ten cases were reported to the Atlanta Medical Society, as having occurred in

the county of Fulton. It is known that this unusual prevalence exists in other sections of Georgia, and this is probably the case also throughout all Southern States.

The writer, who had not seen a single case in a practice of nearly twenty years, previous to the late war, has treated no less than five cases in the last two years. The cause of this extraordinary frequency of tape worm at the present time is an interesting subject of inquiry.

Having given the matter some attention of late, we propose to submit for publication the results of our investigations.

The subject of parasites in general, is one of singular interest to the student of natural history; and the attention of the pathologist and physician is now called to the development of new and important facts connected with the origin and propagation of parasites in the human system.

We opine that few people are aware of the number and variety of parasites that infest the human body; and it is probable that most medical practitioners have little acquaintance with the subject, outside the ordinary varieties frequently met with in the intestines of children. A certain philosopher once remarked, that every object in the universe is in itself an inhabited world. The sprig of grass, or the leaf, is thus inhabited by invisible animalcules, which microscopists tell us may be seen, in some instances, to copulate, generate and live out their brief existence even while the observer gazes upon them. It appears that the human body does not form an exception to the rule, and that it is not merely a microcosm as to its wonderful form and mechanism, but a microcosm in the literal sense of the word—a world inhabited, externally and internally, by numberless living, active creatures. Every animal has its peculiar parasites, and even the parasites themselves have parasites. Hudibras was evidently aware of this fact, as is clear from the following lines:

> "These fleas have other fleas to bite 'em,
> And these fleas, fleas, ad infinitum."

About *thirty* forms of entozoa have been discovered occupying the human body. But we propose to consider the cestoid family, commonly known as *tænia* or *tape worm*. Until recently only two varieties were known to infest the human subject, to wit: the

Tænia Solium and Tænia lata. Now, eight varieties of the true tænia are recognized, and two varieties of the bothriocephalus.

The *tænia solium* is most common in the United States, and is the variety now prevalent in the South. The *tænia mediocanellata*, said to be frequent in Europe and South Africa, probably exists here, but is confounded with the *tænia solium.*

The bothriocephalus latus is endemic in some well defined localities, chiefly in Continental Europe, and the B. cordatus is new to science, having been but recently found in North Greenland. The genera and species of these entozoa have been recently classified as follows:

A. PLATYLMIA.

I.—CESTOIDEA—Banded, riband-like, girdled, or tape worms, in the form of mature sexual parasites, androgynous, and living in the alimentary canal.

(*a*) *Tænia* 1. Tænia Solium (Linnæus) the common tape worm of man in this country.

2. *Mediocanellata* (Kuchienmeister) the common tape worm of man on the Continent of Europe.

3. *Tænia Marginata* (Balsch, Cobbold).

4. *Tænia Elliptica* (Balsch, Cobbold).

5. *Tænia Acanthotrias* (Weinland Cobbold) its larva, scolex, or cysticercus only known.

6. *Tænia Nana* (Siebold) a small filiform tænia.

7. *Flava Punctata* (Weinland. Cobbold).

8. *Echinococcus* (Siebold).

(*b*). *Bothriocephali.*—1. *Bothriocephalus latus* (Bresmer); vel flata (Linnæus), the broad tape worm. Its embryo is ciliated and developed in water (Aitken).

Each of these tænia must first exist as a cysticercus, larva, or non-sexual embryo before it can become a fully developed tape worm.

It was not known until a comparatively recent date that the hydatid, or vesicular worms found in the solid parts of various animals, are the young or larvæ of the tape worms. These larvæ or cyst worms, technically termed *cysticerci*, are the second stage of the tape worm embryo, and consist of a tænia head, united by a neck, to a vesicular body. The cyst which envelopes the head

and neck is developed at the expense of the adjacent tissue. It is shaped, as its name implies, like a bladder, the head of the worm corresponding to the neck of the bladder, and is usually retracted within the body, like the neck of an inflated bladder drawn within itself. They are, upon an average, about the size of an English pea.

As these parasites have no generative organs they have been long known as sexless entozoa, and at one time were accounted for on the theory of spontaneous generation, a doctrine which has few, if any advocates at the present day. Indeed, the theory of "omne vivum ex ovo" is now regarded as clearly established.

The relation which these encysted entozoa hold to the tape worm is the same as that of the caterpillar to the butterfly. The process of fecundation, and the development of the embryo from the ovum, have now been actually observed in a considerable number of the parasitic entozoa; and it is to be remembered, as a general fact, that the development of the ova rarely takes place in the same animal, or in the same part of an animal, in which the parent worm has passed its life, and has exercised the generative functions.

There is either a migration from a parasitic to a free condition for a time (e. g. *Guinea worms, Ascarides);* or from one animal into another animal, the free condition intervening (e. g. *Bothriocephalus):* or, lastly, the migration may take place from one part to another of the same animal who is the unfortunate host (e. g. *T. Spiralis*, and cases of tape worm giving rise to cystercus). Some entozoa, known only as incomplete or immature animals in the parasitic mode of life, attain to sexual maturity in the free state, others again, and perhaps the greater number, after living free for a time, become sexually complete in the parasitic condition (e. g. *the Ascarides and Bothriocephalus).* (Aitken.) The tænia solium so frequently found in the human intestine, is doubtless, in most instances derived from the cystercus cellulosa of the hog. The innumerable ova deposited by the tape worm, and which come away by thousands in the segments that are discharged from the bowels, when eaten by the hog, are not immediately hatched into tænia in the bowels of the animal, but must first find entrance through the circulation or otherwise into the solid tis-

sues, where it becomes a cysticercus as above described. So long as it remains thus encysted and shut in, there is no development beyond the embryo state. It is simply a larva, or semi-developed tænia, and requires for its maturity, that it be taken into the stomach of man, thence into the small intestine, where it finds its proper habitat; and seizing upon the mucous membrane, it immediately, enters upon its growth toward a full formed tænia.

It is certainly a wise provision of nature that the ova are not directly developed into tænia, when discharged into the bowels of the patient. If such were the case, every tape-worm case would be fatal, for the ova are deposited by millions.

The law which governs the development of tænia was first promulgated by Steenstrup, under the name of *alternating generations*, from which the doctrine was deduced and established—that the whole of the cystic family of entozoa are nothing else than the larvæ of the cestoid or tape worm family.

The relation between the animals infested with tænia, and those containing the cyst worm, seems to be that of devourer and prey. Thus the cysticercus facioloris is a cyst worm peculiar to the mouse and rat, while the cat, the natural devourer of these animals, is subject to the tænia crassicollis, the head of which so strikingly resembles the head of the cysticercus fascioloris as to leave no doubt of their identity. So the cysticercus pisiformis of the hare answers to the tænia crassiceps of the fox, there being a like resemblance between the heads of the two. And so the cysticercus cellulosæ, found in the ox, sheep, goat, etc., and especially in the hog, has been shown to be the embryo of the tænia solium, common to the human subject.

Kucheinmeister, a German naturalist, fed dogs and cats with flesh containing cyst worms, and afterwards found in their intestines, tape worms corresponding to them. He also contrived to mix cysticerci collected from pigs and rabbits, with the food of a criminal under sentence of death for murder. These were swallowed at various periods from seventy-two to twelve hours before his decapitation. Forty-eight hours after it, ten young tape worms were seen attached by their hooks and suckers to his small intestines. (Watson.)

Again, mice were induced by Professor Leuckart, of Giessen, to

eat mature joints of the tænia crasicollis of the cat, and the livers of those mice were found thereafter to be studded with the cysticercus cellulosæ. (Ib.)

Whether the several cysts and tape worms are distinct in species, or whether the varieties may not result from the animals they feed upon, has not as yet been clearly ascertained so far as the evidenec goes, however, it appears probable that in most instances the animal in which the final development occurs determines the variety. In a series of experiments made upon dogs, by Von Siebold, it was demonstrated that the cysticercus pisiformis of the rabbit, the c. tenuicollis of the ox, the c. cellulosæ of the hog, and the entozoa known as connurus cerebralis, common to sheep, all become developed into tænia serrata in the dog. Yet the law is not invariable, as was shown by another experiment, on the same animal, with the echinococus animalculis, found mostly in cattle. These, when fed to the dog, did not, as in previous experiments, produce the t. serrata, but a distinct tænia of very small size, short joints, and but little over an inch in its entire length.

Though eight varieties of tænia have, in different parts of the world, been found in man, there are only two which are common, to wit, t. solium and t. lata. The small intestine appears to be their only habitat; here they become sexually mature, and here the ova from which spring the cyst worms, are generated and deposited. Of these, one in a million, perhaps, in some fortuitous way, finds entrance into the body of some animal, where, becoming metamorphosed into a cysticercus it awaits the chances, rare and uncertain, of finding entrance into the small intestines of man for its final growth and development.

The t. lata is common in Russia, on the Gulf of Bothnia, and the Swiss lakes. It is supposed to be derived from eating the flesh of certain fish common to those countries. The t. solium is most prevalent where beef and pork are consumed by the inhabitants.

The disease known as measles, in the hog, is caused by the cysticercus cellulosa, each vesicle which spots the flesh of the animal, in this disease, containing one of these cyst worms. In this we have a ready solution of the cause of the present extraordinary

prevalence of tænia in this country. It is known that a great deal of raw bacon was consumed by our soldiers during the war, and not a little, also, by the home people. Large quantities of measly pork were slaughtered, and, in the hurry and recklessness of commissary agents, packed and distributed to the army.

As the cysticerci also infest the flesh of the ox, raw beef may be regarded as a not infrequent source of tænia. The cysticerci are tenacious of life, and are probably not destroyed by a less degree of heat than 212°. So that not only the chipped beef, but the rare beef of our fashionable hotels, are hazardous articles of diet. In Abyssinia, where the tape worm is exceedingly prevalent, the inhabitants are addicted to the use of raw meat. Parkyns, a French writer, in his work called "Life in Abyssinia," thus remarks upon this subject: "In speaking of the diseases of the country I would begin with the most prevalent. *Tænia*, or tape worm, is, on this account, certainly the first to be considered, for the whole Abyssinian population may be said to be afflicted with it. Out of above forty persons, male and female, whom I had as servants at one time, only two were exempt." He mentions the fact that many attribute the disease to the eating of "broundo" or raw beef. Bruce, another Abyssinian traveller, in alluding to the slaughtering of animals in that country, states that—"Almost before the death struggle is over, persons are ready to flay the carcass, and pieces of the raw meat are cut off and served up, before the operation is completed; in fact, as each part presents itself it is cut off and eaten while yet warm and quivering." Goats, sheep, and other animals are also consumed in that country, and frequently without cooking.

Certain of the round worms common to the human system, have been ascertained to undergo metamorphosis similar to the tænia, before reaching their maturity in the human intestine; and it would appear that the origin, growth and development of all parasites are governed by fixed and invariable laws.

The recent discoveries connected with the development of the cestoid larvæ have awakened great interest on the subject, especially in Germany. It is probable that deductions drawn from analogies in the development of insect tribes, are destined to give much aid and impetus to investigations on this subject. The ob-

ject of the gadfly in depositing her eggs upon the hair of horses, and the instinctive aversion of the animal to the presence of the insect, has been ever regarded as singular and mysterious; though long supposed to be in some way connected with the worm known as *the botts*, yet the manner of its introduction to the intestines of the animal, being unknown, few people were inclined to accept a theory apparently so unreasonable, and impracticable.

It is now known, however, that the *bott* is the larva of the gadfly's egg: for you have only to put one of these eggs or "nits" upon the tongue of the horse, and in one minute's time it will hatch into a crawling larva under the eye of the observer. If the eggs be put into a little saliva in the palm of the hand, and the breath blown warmly upon them for a few moments, the same result will follow, as the writer has himself observed.

It is highly probable that certain of the parasites that infest the human body find entrance into the system in some manner analogous to the above.

Of the several specimens of tænia recently obtained by the writer, all belong to the common variety of tænia solium except a specimen kindly furnished by Dr. A. F. Durham, of Sparta, Ga., to the description of which we will presently refer.

The *tænia solium*, now so prevalent, is thus accurately described by Prof. Watson: "It has a minute hemispherical head, which is furnished entirely with a double circle of little hooks, and behind these lie four suction disks, whereby it adheres to the inner surface of the intestine. Its body is long and flat, of a whiteish color, composed of many pieces curiously articulated together. The articulated pieces are quadrilateral. Very short, small and indistinctly marked in the creature's neck, they become gradually larger and squarer, as the distance from its head increases, and at length are longitudinally oblong. So that the worm is narrow and thin at its anterior extremity; one-third or one-quarter of a line perhaps in breadth; while at its broadest part it may be from three to six lines wide. The young tænia seem to be merely wrinkled, but they also are really articulated. The segments of the animal, or joints as they are called, have foramina on their margins, leading to ovaries within. The foramina which are very conspicuous are placed alternately on one side of the animal and on the other;

on the right edge of one joint, on the left of that next to it. This arrangement is, however, subject to occasional irregularities. Each joint is let in, as it were, to that immediately in front of it, and the connection between them is not very firm. It is less firm in proportion as the animal is older, and as we approach its posterior extremity, so that the segments are apt to come away by stool separately. Within each joint—within at least each of the larger and hinder joints—is contained a complicated male and female apparatus, capable of producing thousands of fertile ova, and the spontaneous separation of these riper segments appears to be a natural provision for disseminating the minute eggs. Meanwhile, as the animal shortens by thus shedding its hindermost joints, some of those which are anterior divide into two, by a transverse fissure, which two, after attaining a certain size, again divide, and in this way new joints are formed, and recede gradually from the head. But at a certain distance from the head the divisions and subdivisions cease, and the whole nutritive power is expended in the development of the organs of generation."

We have observed that the separate segments, when first discharged, retain, for a time, an independent vitality, and are capable of elongating and contracting to a considerable extent. In one case in which we were consulted, and in which the patient had counted nearly a hundred of these segments, the irritation caused by their motion in the rectum kept up an almost constant diarrhœa for a long period.

The *tænia lata*, a broad tape worm, is distinguished from the more common variety above described, by the larger size of its head, the absence of the four circular disks and the coronet of hooks; the joints are broader and shorter and differently articulated, and the viaducts are located in the centre of the flat surface of the segments.

The specimen alluded to as furnished by Dr. Durham does not correspond to either of these varieties, nor, indeed to any other that we we have seen described by authors. Like the tænia lata it has but a single sucker or mouth; the head is proportionately much larger than either of the two just mentioned, and the mouth or sucker is not at the conical terminus, but about a line below; where the surface appears somewhat flattened, and at which point

a foramen extends through the entire head. Above the foramen is the mouth acurately resembling in shape and appearance the mouth of a sucker fish. The duct or ducts leading from the mouth to the body of the animal must pass around the margins of the foramen. While the head is larger, the body of the worm is smaller, and the joints shorter than the tænia solium, though the oviducts are on the margins of the segments as in the latter.

We will now submit notes of a few cases of this singular entozoon, all of which have occurred in this vicinity since the war:

Case 1st was in a little boy, five years old. Symptoms œdematous, and pale expression of countenance; asthmatic wheezing and cough, especially at night, with restlessness and gritting of teeth, and variable appetite. First saw the case in September, 1866; had been troubled with the worm more than a year. Pumpkin-seed emulsion, turpentine, calomel and jalap, male fern and koosa had been tried without relief. Having been informed by the child's mother that on two or three occasions she had brought away portions of the worm by the use of alum we decided to test the anthelmintic properties of this article. She had been directed to use it for the cough, mixed with a little lard, and had noticed its effect upon the worm. We directed twenty grains to be given three times a day. Thus given, it relieved all the distressing symptoms, and the general health of the child rapidly improved so long as its use was continued, yet the worm was not evacuated. She was then instructed to mix it with lard as before; the result was that eight feet of the worm was discharged; the head could not be found, though the neck and upper portion were evacuated. As this patient soon left the city we know not whether the worm again returned.

We afterwards ascertained that the *kooso* used in this case was inert, having lost its strength. We thought that in the anthelmintic effect of alum, in this affection, we had made a discovery, but have since learned that the remedy was used for this purpose, as long as fifty years ago, by a practitioner in Middle Georgia, who gave it in sweet milk as a menstruum. We tried this article in another case, but found that it could not be borne in sufficient doses without vomiting the patient. This will constitute a serious objection to its use in most cases. It should be given mixed

in a half to one ounce of lard, or in a gill of sweet milk, in doses of twenty to sixty grains, on an empty stomach.

The case just related ocurred in a pauper family of filthy habits, who had been fed at the Refugee Camp, by the State of Georgia, for the last two years of the war, on Government bacon frequently no doubt imperfectly cooked.

Case 2d was also in a little boy, five or six years of age, whose parents were in good circumstances, but who had been connected with the commissary department, and used rations furnished by the State. The symptoms in this case were restlessness, tossing and gritting of teeth at night, and the frequent spitting of a tough white saliva; occasional pain in the umbilical region; papilæ upon the tongue prominent. The appetite was not apparently affected. Occasional joints were discharged. The oil of turpentine had been ineffectually used in this case before we saw it. We prescribed as follows: After a light supper, give two drachms of Grimault's pulv. kooso before breakfast next morning, to be followed in three hours by a dose of oil and turpentine. Before the time for taking the oil arrived the kooso operated, and the worm entire was discharged, nearly fifteen feet in length. About eighteen months have now elapsed, and there has been no return of the symptoms.

Case 3d I treated in conjunction with Dr. Sterling, of this city. It occurred in an adult, aged twenty-eight; was a soldier during the war, and had eaten much raw bacon while in service. Had discharged joints of a tænia from about the fall of 1864, until the time he came under our treatment (June, 1867). Symptoms—griping pains in the umbilical region, occasional diarrhœa and frequent nausea; appetite generally strong; sleeps soundly, but grits the teeth at night; bronchial secretion deficient and throat frequently dry. Had tried the usual remedies, including turpentine and pumpkin-seed emulsion. We now tried the kooso on an empty stomach, in a dose of half an ounce of Grimault's powder. The stomach rejected it. It was repeated with a like result. After resting a day or two, he was directed to take, on an empty stomach, ʒij of Grimault's pulv. kooso every half hour until four doses be taken, adding to each dose ten drops of a mixture composed of spirits lavender, essence cinnamon and essence pepper-

mint, aa 3ij., the last dose to be followed by a full dose of castor oil and spirits turpentine. The third dose operated, bringing away the worm several feet in length, being a tænia solium, with head, complete.

Case 4th occurred in the practice of Dr. Henry Orme, of this city, the notes of which have been kindly furnished me as follows: Mr. L., a merchant, aged twenty-four, single, of healthful appearance, but has occasionally passed joints of tænia solium. In this case, the appetite was good, and none of the distressing symptoms usually ascribed to this parasite were present. He had tried homœopathy, and various remedies before coming under our care, among them an infusion of the leaves and flowers of the kooso but without success. We tried the same remedy, but failed. Finally we administered Grimault's powder of kooso, half an ounce on an empty stomach, which, in two hours operated, bringing away the worm, about fifteen feet in length. We could add other cases from our own note book, and from the practice of medical brethren in this vicinity; but as the cases are in most respects similar, and the treatment the same, it is unnecessary to do so.

It may be observed that there is much uniformity of symptoms in the cases noted. In the case last mentioned there was nothing to indicate the presence of the worm except the segments occasionally discharged from the bowels. And we know of another instance in which the party declines to be treated, alleging that, though the joints have for a long period been passing from him, he feels no unpleasant symptoms whatever. It is probable that in children, and in persons of delicate and nervous temperaments, the symptoms are usually well marked, and distressing; yet it is questionable whether they are worse than would be occasioned by the presence of an undue number of lumbricoids, or other variety of intestinal worms, in the same subject.

Among the several remedies recommended by authors for the removal of tænia, the following are regarded as most efficacious:

The *etherial oleo-resinous extract of the felix mas*, or the *male shield fern*, in doses of twenty to twenty-four grains. The *kameela* has more recently come into use in England as an efficient remedy. It belongs to the natural order *euphorbiaceæ*, and sub-order *crotoneæ*. One to three drachms of the powder may be given in a

little gruel, mucilage or syrup. It occasions no unpleasant effects, acts gently, and brings away the worm in two to six hours.

The bark of the *pomegranate root* has been long used and highly extolled as a *tænifuge*. The oil of turpentine, in large doses, has been found efficacious in many cases. The kooso we prefer to any other, believing that a good article of this remedy properly administered will never fail to kill and remove the worm. The loose flowers, contained in the shops, cannot be relied upon, as thus kept they lose strength, and soon become inert. The preparation we use is that prepared by Grimault & Co. It is prepared from the flowers of the plant finely powdered and tightly corked in bottles containing single adult doses of half an ounce, which is directed to be given in infusion, on an empty stomach. The kooso or cusso is an Abyssinian ornamental tree, and was first brought to the notice of the Profession by Dr. Brayer, of Constantinople, as early as the year 1823, in honor of whom its botanical name *brayera anthilmintica* was adopted.

Dr. John Brinton, M. A., London, recommends as superior to all other remedies for the ejection of the tænia, the following combination: ℞ Ext. eth. filic. maris ʒjss; pulv. Kamelæ ʒij; mucilag. et syrup, q. s.; aquæ cinnamon ad. ʒiij. Mix. Half to be taken at bed-time, and half at two, A. M. He reports ten cases relieved of the worm on the first trial by a single dose of this mixture, no second dose being required. The remedy occasioned no unpleasant result beyond slight nausea in some cases, and required no purgative medicine to aid it.

We have recently seen an article taken from the *Gazette Médicale de Paris*, in which it is stated that "ether, in its direct absorption by the intestinal canal, administered in capsules or in syrup, will produce anæsthesia in the worm, which may be removed by a mild purgative. Dr. Lortel gave for this purpose twenty grammes of ether, followed in two hours by thirty grammes of castor oil." If this be true of ether, we opine it is due, not to its anæsthetic property merely, which would probably be too transient to allow two hours time for the action of the purgative, but must depend upon a peculiar and distinct anthelmintic property by which the worm is effectually destroyed.

ART. IX.—*Female Surgery: Correspondence.*

[THE following remarks on the subject of Female Surgery, are contained in a letter from Dr. J. C. Nott, now residing in Baltimore, to Prof. Stanford E. Chaillé, of this city, editor of the late *N. O. Medical and Surgical Journal.* Being of general professional interest, Prof. Chaillé has kindly given us permission to publish them.

Speaking of a recent trip to New York, he says: * *

My trip has been a very agreeable and instructive one, and the subject being now uppermost in my mind, and having no time to think or write of any thing else, I will give you some rambling remarks on what I saw there in my *specialté.*

And first of Dr. Thos. Addis Emmet, who now stands confessedly and deservedly on the pinnacle of fame in the United States in this important and long ignored department of surgery—which is almost wholly the growth of the last four years.

There are three great epochs in uterine surgery. The first is marked by the *Speculum* introduced by Recamier in 1821. The second by the *Uterine Sound* of Prof. Simpson, brought before the profession in 1843. The third the speculum, the silver wire sutures, the uterine sound and redresser and other improvements of our countryman, J. Marion Sims, all of which have been subsequently brought before the public. The specula of Recamier and others had little value before the time of Simpson, in advancing uterine surgery beyond the diagnosis and treatment of inflammatory diseases of the vagina and os uteri. The sound of Simpson extended greatly our means of diagnosis, and knowledge of the diseases, displacements, etc., of the body of the uterus; but it is since the invention of the speculum of Sims, together with a number of other most ingenious contrivances, and improved instructions for exploring the interior and exterior of the uterus and its appendages, that the great advance has been made. To say nothing about the various improvements of Dr. Sims in the *operative* part of the surgery of women, his improved methods of diagnosis are beyond all praise.

But my object is not a dissertation on the history of Gynecology, but merely to give a few items of what I *saw* and *heard* in New York.

I must here remark, that a very cursory glance at the writings of such leading authorities as Simpson, Sims, Baker Brown, Spencer Wells, and a few others, to say nothing of French and German writers, will show that very wide differences of opinion exist, that many practical points of great interest are still *sub judice*, and that great caution should be used in accepting the decisions of best authorities. Simpson's intra-uterine pessary, for example, is now generally condemned; some of his cutting operations about the uterus are also condemned by Sims, Baker Brown, and others; and an evident reaction is now going on against the confident assertions of Sims. The fact is, the time during which uterine surgery has had its birth and growth is so short, that our experience has not been sufficiently mature to establish fixed principles. Many of the operations alluded to give *immediate* relief, and even a year or two passes before we discover that new troubles follow the operations, and that some change, from the contraction of cicitrices or other causes, leave the patient in worse condition than before the operation.

In confirmation of this I will take the liberty of quoting from some conversations I had with Dr. Emmet in my recent visit to his hospitals.

Dr. Emmet may now be considered as one of the first living authorities; for few men anywhere have had such a wide field of observation, and he seems to be endowed by nature with those peculiar qualities of head and hand that fit him particularly for the special department of science he has selected. Having great confidence in the results of his large experience, I noted down the following conclusions.

1. He never resorts to the lateral incisions of Dr. Sims for the relief of dysmenorrhœa, sterility, engorgement of the uterus, or anything else; for the reason that after the bilateral incisions the two flaps are apt to flare or open out, and to leave an unhealthy surface which often leads to other unpleasant consequences.

2d. He does not *amputate* the elongated cervix for dysmennorrhœa or sterility in those cases in which Dr. Sims usually recommends it, but only in cases of very extreme abnormal elongation.

Instead of amputation, or bilateral incision in all the above cases, he recommends, as sufficient, an incision *backwards* in the

cervix, extending from the os nearly up to the posterior reflexion of the vagina. This answers all the ends that can be reached by incisions—it heals up sound and well, and does not leave the os with that *hog nose* expansion above alluded to.

3. It is in cases of ante-flexion especially, that he recommends this *posterior* incision of the cervix, and instead of attempting to straighten the channel by continuing the posterior incision on through the os internum posteriorly, after making his *posterior* incision through the cervix, he introduces a blunt-pointed knife and divides the *internal os* by making his incision *forwards* in the concave part of the flexure nearest the pubes. He contends that the channel in this way is better opened, and remains more permanently so, than where the incision is made in the opposite direction as recommended by Sims. I saw him perform this operation in the "Woman's Hospital" with his accustomed dexterity.

While he considers this operation of great value in ante-flexion, he asserts, that a similar incision in the opposite direction for *retroflexion*, is worse than useless. There is *no cutting operation*, he thinks, which can cure retroflexion; all that can be done is to replace the organ frequently, keep the patient quiet, and resort to such remedies as relieve local engorgement, or other uterine disease, and at the same time attend to the general health. In some cases a pessary is useful.

There are several remedies on which he lays much stress: 1st. Injections, not of tepid but *hot* water, freely and frequently into the vagina—a gallon at a time. He says it relieves greatly congestion of the uterus, improves the condition of the vagina and gives tone and contractile power to it. This remedy he dwells much upon. Cold water injections into the vagina the Doctor says do great harm, produce neuralgiâ, uterine pains, etc. 2d. When *granular* erosions, or fungoid granulations exist about the cervix, he says they always exist *within* the uterus, and a favorite remedy for this condition is the introduction of a flexible silver probe, wrapped at the extremity with a little cotton, and dipped in Churchill's tincture of iodine, which is a very concentrated preparation. The probe thus armed is passed up to the fundus and moved freely about. This is done two or three times a week. Sometimes he uses the nitrate of silver, twenty to forty grains to the ounce, but prefers the iodine. 3d. In engorgement of the cervix

uteri, and in those cases where it is covered over by disease of the follicles, looking like milliary tubercles, he vesicates the surface by brushing it over with Nichols' acetic acid solution of cantharadin. This should be carefully managed, so as not to get on the vaginal surface; and then the part should be covered with the cotton glycerole. This treatment he says is very potent in relieving engorgements and indurations of the cervix. In those granular erosions, or granulations, where they are within view, he speaks in strong terms of the beneficial effects of chromic acid and water in equal parts. So much for medication.

4th. Whenever amputation of the cervix *does* become necessary, he does not do it with the ecraseur, or any instrument which leaves the stump to *heal by granulation;* but invariably treats it just as he would an amputation of leg or arm—he draws the mucous membrane over the cut surface, like skin flaps, from before and behind, and fixes the edges together with silver sutures, after the manner recommended by Sims, thus healing it up in a few days by the first intention. His reasons for doing so are his own. He says that where the cervix is allowed to heal by granulation, or a cicatrix is allowed in any way to form over it, the cicatrix contracts, the os is drawn up, and a *neuralgic* condition of the cervix ensues, from the constriction upon the nerves. This formation of a cicatrix is a leading objection to many of the cutting operations about the cervix. A cicatrix on the cervix, whether from knife, caustics, or ulcer, is apt to be followed by neuralgic pains, like those sometimes seen in stumps, and to relieve them he often peels off the cicatrix with scissors and draws the surrounding mucous membrane over with silver sutures. He always uses scissors instead of the knife, because there is less bleeding.

The Doctor gave me an exceedingly ingenious suggestion for reducing difficult cases of *retroversion.* Place the woman on her knees, with head down, and introduce Sims' speculum into the *rectum;* this lets a column of air in which presses upon the uterus, fourteen pounds to the square inch. After this has been kept up for a short time, take the speculum out of the rectum and introduce it into the vagina. In this way the atmospheric pressure alone will often reduce the displacement better than any other means. For rectifying the position of the *retroverted* uterus, the

Doctor has made a modification of Sims' *elevator* which seems to be an important improvement. The *uterine stem* in Sims' instrument is in one solid, stiff shaft, the objection to which is, that in withdrawing the instrument it has a tendency by its reversed lever motion to *reproduce* the *retroversion.* To obviate this, the stem is made with *two joints,* which yield as the instrument is withdrawn, and this leaves the uterus in its normal position.

The most important operation that *I saw* the Doctor perform, was the one he has devised for the relief of procidentia, by removing a triangle from the anterior wall of the vagina. This has been published by the operator, and a description would be out of place here. The whole conception and performance of this operation is truly wonderful. It is one of the most difficult operations to do well that I know of, and the Doctor went through it with a rapidity and dexterity that I have rarely, if ever, seen equalled.

I omitted to say that Dr. Emmet regards retroflexion as being almost invariably a result of pelvic cellulitis.

Now in conclusion, I must repeat that I am writing as you request for your next Number, which is to come out in less than a month. I have no time from other engagements, and therefore do justice to no body—to you, your readers, myself, and much less to Dr. Emmet, whom it is hoped I have not misunderstood in any important particular. If I have I may provoke him to revenge himself by giving us the light of his experience soon in his own language.

To Dr. Gaillard Thomas, I am also under great obligations for his kindness in giving me his plan of instruction, free use of all his illustrations, and much information that will be useful to me in my lectures. I was so hurried with other matters in that endless and bottomless city of New York, that I had no time to hear him, but was told by others that he is the most brilliant lecturer in the city. He is full of all the enthusiasm that makes success.

I saw, too, our old friend Bozeman, who has launched his barque on the same ocean, and with his indomitable will, and skill as an operator, he will come down the quarter stretch, before the race winds up, among the winning horses.

Now just take this—make the most of it, and don't let me hear anything more about your Journal, till your defaulting subscribers put you in jail.

CHRONICLE OF MEDICAL SCIENCE.

REVIEW OF FRENCH MEDICAL LITERATURE.

BY DR. EDMOND SOUCHON, OE NEW ORLEANS, LA.

Notes on a New Species of Parenchymatous Fungus of the Testicle: By Dr. SISTOCH.—*Gazette Médicale*, Oct. 19th, 1867.

In the first part of his article, the author reviews the different opinions which have been advanced by modern writers, as regards the nature of testicular fungus, and proceeds with the description of the case which has come under his observation.

The following is a condensation of the actual state of science as regards the nature of the affection. According to Dr. Jarjavay, parenchymatous fungus of the testicle is a hernia of the testicular parenchyma impregnated with plastic products, through an opening of the albuginous coat. A bruise, the ulceration of the scrotum and gonorrhœal orchitis are the more ordinary causes of the disease.

Dr. Deville is of opinion that the fungus of the testicle is not a special disease, but merely an incidental phase of the evolution of tubercles of the gland. Dr. Broea entertains the same opinion. Dr. Curling, thinks that it is a termination of chronic orchitis. and Dr. Gosselin, of syphilitic orchitis. Dr. Rollet has reported three cases of syphilitic fungi, though in those cases the distinctive signs were not presented by the physical characters of the tumor, but were ascertained from the antecedents and by treatment. Dr. Hennoguin has endeavored, in a recent work, to determine the relations between benign testicular fungi, and the hernia of the same organ, and has arrived at the following conclusions, viz.: 1st. Hernia of the testicle and benign superficial fungus are but one and the same disease, the former having often been mistaken for the latter. 2d. Three causes are necessary to produce a true benign or parenchymatous fungus of the testicle, viz: (*a*) violent inflammation of the scrotum; (*b*) a retraction of the albuginous coat, under the influence of the same cause, both acting in the same direction, to produce a concentric pressure on the glandular substance; (*c*) a want of resistance on one point of the secreting organ.

Dr. Simonnet believes that if all the reported cases of chronic orchitis were strictly observed, they could be ranged under the heads of syphilis tuberculosis, and cancer.

The case reported by the author, is that of a young Jew,

twelve years old, rachitic and deformed, who entered the Military Hospital of Constantine (Algeria) on the 9th of April, 1866.

When six years old, he was affected, on the right side, with a testicular engorgement, which, within the last two years was transformed into a small ulceration of a fungoid aspect, projecting on the surface of the scrotum, with granulations of a pale red, of a resistant and elastic consistence producing a healthy pus, but in small quantity. Its base presented a sort of circular bridle, which circumscribed the pedicle of the fongoid tumor and separated the said tumor from another tumor deeply situated intra-scrotal, which is resistant to the touch, but painful, regular, of uniform consistance, ovoid, without additional projections, without adhesion of the skin. The vas deferens is larger than on the left side. The patient was subjected to mercurial treatment, which, giving no satisfactory result after a month, was stopped, and cod liver oil given in its place with iodide of potassium. The tumor kept increasing considerably, and two months after the date of the entry, an operation was resorted to, and performed as follows: An incision was made on the anterior aspect of the tumor, extending to the tissue of the tumor itself. It was intended by the operator to preserve as much as possible of the substance of the testicle, but it was impossible to distinguish the epididymis, the albuginous coat or the seminal ducts, from the apparently homogenous white, resistant, fibrous-like tissue of the tumor; therefore the whole of the tumor was enucleated without difficulty, and the cord and accompanying vessels were tied *en masse*.

The child recovered rapidly, and left the hospital twenty days after the operation.

Upon examination of the tumor with the naked eye, it was found that both the extra and intra scrotal tumors were formed in the centre of that apparently homogenous, dense, white, fibrous-like tissue which the surgeon met under his knife during the operation; the peripheral portion was found of a loose areolar tissue, resembling the cellulo-adipose with small meshes and with a radiating aspect.

The microscopical examination showed that the tumor was composed of fasciculi of connective tissue, with debris of the seminal ducts, and presenting an innumerable quantity of fibro-plastic elements, nuclei and fusiform bodies, either free or disposed in lines. The whole of the tumor was remarkably poor of vessels.

About one month after the operation, the patient re-entered the hospital with a considerable and painful swelling of the free extremity of the cord of the diseased side. But rest, a cerate with iodide of lead and syrup of iron soon caused the alarming symptoms to disappear. The patient, examined fourteen months after the operation, was in the most healthy condition, both local and general.

New Affection of the Ear.

At the Medical Congress, Dr. Wreden, of St. Petersburg, presented a voluminous paper upon a *new parasitic affection of the ear*, the *mycomyringitis*, and the *myringomysis aspergilina*, of which the *aspergillus flavus* and the *aspergillus nigricans* are the cause.

After a lengthy historical review of the disease and the minute relation of ten clinical cases, the author gives a microscopical description of those parasites, found on the tympanum; he saw them reproduced *in situ* and exhibited microscopical specimens. They produced great functional disturbance and great pain; they were very tenacious. The best remedy is a solution of hydrochloride of lime or arsenite of potash. The disease seems to originate from the habitation of damp rooms.

The two parasites transported on the orange and on the lemon have never produced but the *aspergillus glaucus*. Notwithstanding all the interest of the subject, it is impossible to submit it to a more extensive analysis.—*Union Médicale*, Sept. 10th and 12th, 1867.

A New Apparatus for Suspending the Scrotum, in Diseases of that Part, Constructed by Mr. Galante, after the indications of Dr. Demarquay.

The apparatus is composed, 1st of a gutta-percha patch, with a large notch or gap on the middle portion of the edge which is to be in contact with the patient; it is kept in place by the aid of bands which are fastened to each side of the gap by one extremity, and, by the other to a belt tied around the waist of the patient. 2d, of five straps of India rubber, an extremity of each being attached to the gutta-percha patch, and the other to a hoop or arch, such as is used to protect diseased parts from the weight of the coverings of the bed. The hoop or arch is of galvanized iron wire and presents on each side a series of metallic hooks to which are attached the India rubber straps.

The apparatus elevates the scrotum higher than the thighs, prevents all tractions on the chord, which are so painful, and allows any inclination of the gutta-percha, which will favor the return of circulation.—*Union Médicale*, Sept. 12th, 1867.

On the Treatment of Dropsy of the Antrum, or Maxillary Sinus: By Dr. Fano.

Several operations have been proposed to evacuate the contents of the diseased antrum. The first impulse which occurs to one is to perforate the lower wall of the sinus with the trocar or the knife; but such an opening is so narrow that it closes rapidly. Hence the advice to make an opening with loss of substance, either on the anterior wall or some point of the alveolar border of the maxilla. Runge would excise a flap in the shape

of a V; Boyer, a semilunar one, with the convexity turned downwards. Even then the opening will close in the course of time and the disease will recur. It is for such reason that to draw a tooth and perforate the socket up to the antrum, is not the best method, unless the opening is prevented from contracting upon itself, by some foreign body. To that end we have, in a case, placed a silver canula, such as is used in the treatment of dacryocystitis; the canula is to fit the opening tightly; if it should become displaced, it would be well to fasten it to the neighboring teeth. In this manner, we establish a maxillo-bucal fistula, permitting the free escape of the matter collected in the antrum, and allowing, also, the injection of any substance thought proper into the cavity. This is, though, but a palliative treatment. To obtain a permanent cure, it would be necessary to establish the normal opening of the antrum into the nasal fossa, or to make, close by, an artificial one; but it would then be necessary to place some foreign body in the opening, to prevent its closing up, and that would be more inconvenient to the patient, than a canula in the socket of a tooth. This canula should be removed if it is found that the natural opening of the sinus is re-established, which will be readily ascertained by injecting some colored liquid through the canula, and by inclining the head forward to see if it passes into the nasal fossa.

The author reports a case of dropsy of the antrum to which he has applied the treatment spoken of above, and in which he says he has met with as satisfactory a result as could be wished for.—*Union Médicale, Sept. 24th*, 1867.

Société Médicale des Hopitaux.—On Uræmia.

Dr. Hérard relates a case of *uræmia of dyspnœic form*, in which the predominant symptoms were a great dyspnœa and the absence of dropsy. Drs. Parrot and Dumontpallie relate similar cases. Dr. Buegnoy remarks that albuminuria may exist under two clinical forms, a *dry form* and a *dropsical form*, each of which would correspond to special anatomical lesions. The dry form, already pointed out by Johnson, is often characterized by atrophy of the kidney, and the patients usually die presenting the ordinary symptoms of uræmia; in other words, uræmia is most often observed in cases of atrophy of the kidney.—*Union Médicale, Sept. 24th*, 1867.

Ainhum.

Such is the word (it means "to saw") used by the "Nagos" negroes of Brazil, to designate a disease peculiar to the Ethiopian race, specially the African negroes, and consisting in a transformation, a fatty degeneration of the anatomical elements of the

little toe, exclusively, which, after a long time, is separated from the rest of the foot as if it were gangrened. It is without general symptoms. It has been recently studied for the first time by Dr. da Sylva Lima, physician to the Charity Hospital of Bahia, in the *Gazetta Medica da Bahia*, Nos. 13 and 15, Jan. and Feb., 1867. It is a most common disease among the negroes, but is very rare among the creoles. A careful revision of all circumstances that one might think capable of bringing on the disease, was made by the author, and it led him to say that the cause was completely unknown.

A small pit, or groove, appears at the internal and inferior surface of the root of the toe, corresponding exactly to the digito-plantar fold; there is no ulceration, no intense pain, no inflammation, and the patient takes no notice of it. Little by little, the root of the toe seems to grow away from the neighboring toe, whilst, on the contrary, the end of the little toe comes into contact with the neighboring toe, thus forming an angle corresponding to the pit or groove. This latter becomes deeper and deeper as the toe becomes larger, so as to be deep and circular. The epidermis becomes dry and wrinkled; epithelial scales are incessantly formed at the bottom of the groove, which, sometimes becomes ulcerated and secretes a very strong ichorous liquid. The toe becomes so loose, that it can be thrown in any direction; it is most irregular in shape and resembles a small Irish potatoe. At this period of the disease, the first phalanx has completely disappeared at the joint of the circular groove, the toe has so much fallen out of place that it prevents the patient from walking, and, being incessantly exposed to be hurt, is the cause of great pain. It is at that time that the patients ask to have the toe amputated; often it is detached by gangrene, from the destruction of the vessels and nerves, or it is knocked off by a blow; some patients will apply a ligature around the root.

Such is the slow course of the disease, that, from one to ten years may elapse between its two extreme periods.

Microscopical examination gives the following results: The epidermis is but little altered; the subcutaneous adipose tissue is considerably increased at the expense of the tendons, bone and other tissues. Of the two arteries of the toe, the external alone exists. The cartilages are very thin; their corpuscles are reduced in volume and number, and the hyaline substance presents adipose spots. The canaliculi of the spongy substance of the bone are dilated and filled with large yellow fatty globules. The bone looks as if it were eaten up, though without caries, and the bone corpuscles are not easily seen in some places.

This disease is, after all, an atrophy with fatty degeneration of the tissues, resulting from a want of nutrition. Some Brazilian physicians confound it with the "quigila," a popular expression for the "gafeira," of Portuguese authors, which is a variety of the elephantiasis of the Greek, affecting specially the metacarpal

bones and the fingers and toes. But this last disease makes no difference of sex or race, and shows no preference for the little toe; it is accompanied with anæs-thesia, muscular atrophy, gangrenous ulcerations, caries, permanent contraction of the toes, but without the characteristic pitor groove of *ainhum*. Lastly, Virchow, (*Pathology of Tumors*) says that elephantiasis is of an inflammatory, irritative, or erysipelous origin, resembling that of sclerema, and is a tumor of theconnective tissue, or a fibrous tumor.

A disease described as "A peculiar disease of the fingers and hands," in a case which was observed by Dr. Mirault, of Angers, presents so striking a resemblance to *ainhum*, that it called forth these remarks: The disease began at the auricular finger of the right hand, with violent pains, swelling and redness. The swelling was such that a year after the finger was twice its normal size, and three years after the origin of the disease, the finger represented a cone with its apex turned downwards. Its exaggerated size corresponded specially to the inferior two-thirds of the first phalanx; there the swelling stopped abruptly, and there was a circular groove perpendicular to the axis of the finger and confounded on the palmar surface, with the metacarpo-phalangeal folds, whilst, on the dorsal aspect of the finger, it was a finger-breadth higher than that fold; the groove was narrow and deep, such as would be produced by a metallic ring; the bottom presented an ulceration of a bad aspect, cutting through the skin and laying bare the tendons of the flexor and lumbrical muscles. The finger was amputated at the joint, but the wound was over eighteen months in healing. The other fingers were successively affected, so that, in the course of fifteen years, four of them were lost. The presence of an ulcerated groove and the abrupt stoppage of the swelling are two characters similar to those observed in *ainhum*; but the extremity of the finger had undergone no alterations, and was found most healthy.

So far, *ainhum* is, therefore, a special disease, different from elephantiasis, from sclerema of adults, or sclerodermia, or scleriasis, as Virchow calls it, and to which the case of Dr. Mirault has been said to belong.

As for the treatment, all local applications are useless; longitudinal incisions, perpendicular to the groove, as soon as it appears, so as to remove the constriction, may prove most beneficial; the ablation by ligature or by the knife, should be the last and ultimate remedy.—P. GARNIER—*Union Medicale*, Sept. 26, 1867.

Experimental Researches on the Action of Phosphorus upon Living Tissue: By Dr. Ranvier.

THE process of fatty degeneration is so obscure, that all experiments capable of producing it present the greatest interest. Since

it was known that phosphorus introduced into the economy produces in the liver, kidneys, and muscles, rapid fatty degeneration, numerous researches have been made on poisoning by that substance. It is an established fact that phosphorus injested does not always determine inflammatory lesions of the gastro-intestinal lining membrane; in few cases only hyperæmia and ulcerations have been met with. Dr. Ranvier renewed several of the experiments on frogs and rabbits. He placed small fragments of phosphorus between the muscles of the thigh, under the skin, in the œsophagus, etc. After a fortnight, the animals were killed, and it was found that the phosphorus was unaltered in its shape, had determined no local disorders where it was applied, and that the muscles, the heart, the head and the kidneys, all presented to the naked eye and to the microscope, the characters of fatty degeneration.

In these experiments, phosphorus would act as a foreign body, and would determine inflammatory phenomena, were not its action, as a foreign body, counterbalanced by a special action. That action, which deprives the cells, at least in part, of the property of feeling the formative irritation, should be looked upon as *contra-stimulant*. It is impossible therefore to admit that the fatty degeneration of the tissues results from the irritative action of that substance. According to the author, phosphorus determines fatty degeneration because it enfeebles the nutrition of the histological elements, and because it is the contra-stimulant of those elements.—*Union Médicale, Oct.* 1, 1867.

A New Mode of Vaccination.

It is performed by means of a silver ring, split in two, and having a small capsule in which is inclosed enough vaccine for thirty inoculations. The operator places the ring at the extremity of the left thumb, and thus deposits by direct application, the virus in a wound made by the right hand. According to the inventor, Dr. Carenzi, of Turin, it is possible to inoculate quicker and better than from arm to arm. It is now to be decided whether the vaccine thus preserved is more successful than that preserved by other means; it is not probable.—*Union Médicale, Oct.* 5, 1867.

A Case of Syphilitic Phthisis; Cure by Iodide of Potassium.

Syphilitic phthisis, or rather pulmonary syphilis, has been admitted long since; many authors of the past century have reported such cases. But it was a question whether syphilis was only an occasional cause that favored the development of tubercles in the lungs, or whether the pulmonary disease was a direct and immediate product of a syphilitic lesion developed in the pulmonary tissue itself. The existence of pulmonary syphilis is no longer

doubtful. The following are the terms in which Ricord spoke of the disease in 1854: "The pulmonary tissue is a place where gummy tumors are more frequently developed than it is thought; and the knowledge of this fact is very important. During past years we have seen a sufficient number of autopsies, to think that there are pulmonary lesions that must be, by all means, considered as syphilitic tubercles. In the parenchyma of this organ, syphilitic tubercles follow the same course as in any other part of the body; it presents the same form, the same evolution, the same fatal termination by suppuration. The patients will spit pus exactly as in the most advanced period of pulmonary tubercles. They lose their flesh and soon die from the pulmonary disorders."

However, all cases of pulmonary syphilis have not, fortunately, that degree of gravity of the cases reported by Dr. Lancereaux. It is so much more important to ascertain the true nature of the disease on that account and on account of the chances of curability, of which some of those cases are liable. Iodide of potassium in such cases, and in doubtful cases in which syphilis might be suspected, is the touch-stone of the diagnosis, and, at the same time, a most precious means of treatment.

We report a very remarkable case of syphilitic affection of the lung (very likely a gummy tumor), that might have been mistaken for a pulmonary tuberculisation, but which, from the antecedents that led to the treatment, yielded, fortunately, to iodide of potassium. The case was observed in Dr. H. Gintrac's ward, at the St. Andrew Hospital, and related in the *Journal de Médécine de Bordeaux.*

A man, aged forty-three, having enjoyed good health up to this time, entered the hospital on the 3d of May last. He had complained, two months before, of a pain in the chest, corresponding to the left nipple; of cough, which was dry at first, but was soon followed by an abundant mucous expectoration; sometimes of a little fever; lastly of loss of flesh. His antecedents were the following: In 1852, he had a chancre, followed three months afterwards, by a papulous eruption. He entered the Hopital de l'Antiquaille, at Lyons, where he was given iodide of potassium for five months, without stopping. A new squamous syphilitic eruption took place in 1859, principally on the arms and hands, with loss of the hair, ulcerations in the throat, "plaques muqueuses" at the anus. Lastly, in 1861, he suffered with pains in the legs, especially along the tibia, which were more intense at night.

At the entry of the patient into the hospital, Mr. Gintrac observed the following symptoms: pulse, from 76 to 80; skin hot; loss of flesh. Appetite is good; no diarrhœa. Frequent cough; abundant expectoration of a thick, yellow, purulent matter. On the right side of the chest, percussion and auscultation detect nothing abnormal. On the left side, percussion reveals, a little above the nipple, (and nowhere else) a dullness, very circumscribed but very plain. At that point, cavernous breathing is heard,

together with mucous rattle and an echo or resounding of the voice, which has a close resemblance to pectoriloquy. Below the clavicle and in the supra and infra spinous fossæ, and at the inferior portions of the lungs the breathing is perfectly pure.

Considering, on one hand, the absence of hæmoptysis, the little intensity of the general symptoms, the normal character of respiration everywhere, except at the above point, the absence of all hereditary symptoms, of past pneumonia or bronchitis; considering, on the other hand, the syphilitic antecedents of the patient, Dr. Gintrac puts the patient under a syphilitic treatment: iodide of potassium, successively carried from 0.25 to 2 *grammes* a day.

Twenty days after, expectoration had diminished, and the stethoscopic signs were already beginning to be less marked. Towards the middle of June, expectoration had completely stopped, and mucous rattles were no more to be heard; a whistling breathing was heard in place. In the beginning of July, the patient left the hospital in the most healthy condition, presenting only the whistling sound spoken of above.

In the same journal, was related, in 1864, a similar case, but much more marked, with night sweats, diarrhœa, continuous cough, hæmoptysis, and all the local signs of a large pulmonary cavity below the right clavicle. He was also submitted to the treatment by iodide of potassium, and recovered almost completely in the short space of a month.—*Gazette des Hopitaux*, Oct. 11, 1867.

Polypi of the Larynx.

Among the theses presented to the Medical Faculty of Paris, we will specially point out that of Adhemar Causit, M. D., on polypi of the larynx, in children. We have read the paper through, and it has proved most interesting and worthy of the author who has always been well-known in the community abroad as a most intelligent, successful and modest worker. The doctor is a "Laureat et Interne des Hopitaux de Paris et de Bordeaux," and that speaks higher in his favor and that of his paper than all we could say. Time and occupation permitting, we will some day give the substance of that thesis, and the reader will be well repaid for the reading and perusal of the paper.

Detection of Nitrobenzole, as an Adulteration, in Oil of Bitter Almonds.

Prof. Wagner (Jahresbericht, *f.* 1866—*s.* 307) recommends shaking the suspected oil with an aqueous solution of bi-sulphite of soda, in which genuine hydride of benzoyl is entirely soluble, whilst nitro-benzole and nitro-toluol are insoluble in this liquid. By

taking as much as 5 or 10 grammes for experiment, the nitro-benzole, if present in considerable proportions, may be determined quantitatively by means of a burette or pipette. The nitro-benzole which floats upon the surface of the solution of soda-sulphite of hydride of benzoyl, has the specific gravity 1.18 or 1.20 = 22° or 24°13.—[J. W. M.]

CLINICAL RECORD OF MEDICINE AND SURGERY.

COLLATED BY S. S. HERRICK, M. D.

[THIS department is intended to illustrate hospital practice, and especially cases coming up in the course of clinical instruction given at the Charity Hospital, by the Faculty of the Medical Schools. In this work we avail ourselves of the assistance of members of the Medical Classes, who are in attendance upon the patients in the wards, and follow the clinics of the Professors. The plan is new among us, and we are well aware of the imperfections of the present effort, but hope to improve as the machinery by a little wear, shall work more smoothly.

At the same time we shall keep this department open to the Profession at large, and we solicit contributions from our friends, both in city and country, whenever cases of special interest may arise in the course of their practice.

By a free and cordial co-operation in this manner, the friends of medical progress and patrons of our Journal may enable us to erect a beacon which shall spread its rays throughout the Southwest. None of the Profession can be insensible of the mutual benefit that may flow from such an interchange of opinion and observation, the success of which requires no more than most of us are able to contribute to the common fund, whose aggregate stock becomes the undivided portion of each member.]

Selections from the Surgical Clinic of Prof. Logan, at the Charity Hospital.

CASE. 1.—W. B., male, aged forty-two. Organic stricture of some years standing, near bulbous portion of the urethra. Admits No. 5 catheter. Habits intemperate and stomach somewhat affected in its digestive powers.

Operated upon by Mr. Holt's immediate dilatation plan, December 2d. Took ½ gr. of opium every six hours, and had his water drawn off for 3 days with a No. 12 catheter which was passed at intervals of every second day afterwards till he left the hospital,

December 14th, passing his urine in a full stream and with no trouble. He was advised to keep up the caliber of the canal by bi-weekly and afterwards weekly catheterism for two months, and at intervals of fifteen days afterwards, continued according to circumstances.

Case 2.—P. C., aged thirty-seven. Organic stricture, which had been once operated on by internal cutting, and had closed again to capacity No. 5. Great difficulty in micturition and irritation. Loses his night's rest, having to get up so frequently that he ceases to count the times. Operated by Mr. Holt's plan, using at once the largest dilator. Kept a number twelve catheter in bladder for two days, this instrument passing with facility immediately after the operation. General treatment as in above case. Removed the catheter the third day, and passed it every third day to the present time. He is very much relieved and retains his water for five hours at a time. No unpleasant symptoms have shown themselves, twenty days having elapsed.

Case 3.—B. W., aged thirty-nine. Fistula in ano. Prof. Logan, in considering the ætiology of this kind of fistula, remarked that one reason why abscesses in the ischio-rectal fossæ so frequently resulted in this disease was to be found in the fact that the bony walls formed by the tubcrosities of the ischia, in great measure, prevented that collapse of the walls of the abscess from the pressure of surrounding parts which ordinarily has so much to do with the closing of such cavity after the contents have been evacuated. He also, in drawing attention to the frequent coincidence of phthisis and anal fistula, remarked that, in his opinion, this coincidence might, in great part, be accounted for by the emaciation accompanying that disease. The fat, which by filling the ischio-rectal fossæ forms a resistant padding outside of the rectal pouches, thus resisting the tendency of the defecatory effort to impact these pouches with fæcal matter, which matter often forms a commencing source of irritation—is absorbed in proportion to the general emaciation. The pouches above the sphincter losing their normal support, distend, gradually become converted into ischio-rectal abscesses, and these result in fistulæ. The fistula was opened into the rectum in the usual manner.

Case 4.—C. W., German woman, aged about twenty-five. Healthful appearance. Has had one child, now about ten months old. During its delivery she ruptured her perineum to the verge of the anus, but leaving the septum entire, except a slight notch at its outer edge, *i e*, near the surface of the former perineum. The skin was also torn to the distance of an inch on each side of the anus. She was operated on for the first time in the first week of August last by Prof. Logan, who was obliged to leave the city next day, and did not see the case again for two months. No union had occured. He operated again on November 25th. The surfaces were thoroughly vivified and brought together with silver wire, passed deeply through the tissues, and entered more

than a half inch from the edges. After the wires had been twisted it was found that under the new perineum thus formed, the notch in the perineal extremity of the recto-vaginal septum formed an opening sufficient to admit the end of the little finger. Two more wires were then passed, which were made to run obliquely through the margin of this opening, composed of the perineal end of the septum; and, the wires being drawn somewhat tightly and twisted, the opening was thus completely occluded; its margins had been vivified with the other surfaces in the first stage of the operation. The patient's knees were bandaged together; an opiate was administered, and instructions were given to the ward student to draw off her urine regularly.

On the third day after the operation, there was a slight erysipeloid blush around the parts, with considerable pain. Muriated tincture of iron was prescribed in thirty drop doses three times a day. On the fourth day, the patient was in a feverish and nervous condition; and upon examining the parts, they were found washed in a profuse tarry and offensive discharge, which gushed out in a black stream from the vulva, and seemed exhaustless in quantity. Upon sponging it from the surface, the parts, at the seat of operation, were found to present much the same appearance as on the day before. They were slightly œdematous, tinted with a slight erysipeloid blush, and very tender. There was no gaping or suppuration either in the line of union or where the silver wires entered. The discharge was evidently from the womb. Prof. Logan supposed that the operation with the slightly diffuse inflammatory reaction had brought about an irregular menstruation. The woman at the time was nursing her infant, and consequently had not menstruated since she conceived the child, at whose birth the laceration had been produced. The nurse was ordered to keep the vagina free of the offensive discharge by the frequent injection of tepid chlorinated water, (3ii of Labarraques' solution to the pint) and the dose of the muriated tincture of iron was increased to forty drops. A liberal diet was allowed. The discharge ceased in four days, and the health of the patient improved steadily. On the tenth day after the operation, four of the wires were withdrawn, and a few days after, the other two were also removed. Perfect union had taken place on the cutaneous surface; but a very small opening still existed at the perineal extremity of the recto-vaginal septum, which, however, gave her no inconvenience whatever. Prof. Logan informed the students that Prof. Brickell—to whose kindness he was indebted for having it in his power to show them this case—informed him of an almost precisely similar instance of unhealthy menstruation having occurred under similar circumstances, in a case operated upon by him.

Cases Reported by R. E. MORRIS, Ward Student.

PROF. W. S. MITCHELL, delivered a clinical lecture upon artificial pupil, illustrating his remarks by operation upon two patients, each of whom presented central opacity of cornea with anterior synechia of one eye; the operation chosen being that of excision of the iris or iridectomy. The principal point of interest claimed by him in the operation was the possession of binocular vision after operations of this kind, where (as was the case in both patients operated on) one eye was yet normal. This fact was well illustrated by the result, both patients seeing perfectly.

Case of Spinal Injury; Paralysis; Recovery: Reported by Mr. STEWART, Ward Student.

FRANK C., aged twenty-five years, a native of New York, and a sail-maker by occupation, was admitted to the Charity Hospital, April 25th, 1867, suffering from symptoms of concussion of the spine. About eleven o'clock on the previous night, while intoxicated, he had fallen over the railing of a spiral stairway, from the third story to the ground-floor, and remained insensible until five o'clock the next morning. On recovering from his stupor, he experienced a severe pain in the back of his neck and discovered that he had lost the use of his limbs. At the end of half an hour the paralysis began gradually to disappear, so that, before entering the Hospital in the evening, he had acquired control over all his members, with the exception of his left leg, which was almost powerless.

On his admission the following was prescribed: ℞—Hydrarg. chlorid, mitis, grs. iv; fiat in chart. No. viij. S. One powder every three hours.

April 26th. No change; suffers from constant pain over the spinous process of the seventh cervical vertebra. ℞—Emplast. cantharid. (2x3) No. iv. S. To be applied to the region of the spine between the shoulders, and below.

April 29th. Bowels confined. ℞—Enema colocynth, No. j. S. to be given at once. In the evening an injection of warm water and soap was followed by a slight evacuation. About four, P. M., complained of pain and fullness over the bladder. Had not passed any water since five o'clock the evening before. Relieved by the catheter.

April 28th. The catheter still required. In the evening passed his water voluntarily.

29th. Patient feels better, although he complains of having passed a restless and feverish night. ℞—Haustus quiniæ, ℥ivss. S. Teaspoonfull three times a day. Constipation still continues. ℞—Enema colocynth, No. j. S. To be given at once. At two, P. M., complained greatly of pain between the shoulders. ℞—

Syrupi morphiæ, ℥ss. S. One-half to be taken at once, repeated if necessary.

April 30th. Feels much better, having slept well during the night.

May 1st. Better, complains of pain in the back only on twisting his neck.

2d. Pain disappearing; feels better.

3d. Still improving; gaining more control over his limbs; appetite poor; bowels confined. The pain caused by turning his head diminished. ℞—Emplast. cantharid. (2x3) No. ij. S. To be applied between the shoulders on each side of the spine.

4th. A free evacuation from the bowels occurred last night; appetite and strength returning; was able to stand up for a short time.

5th. Soreness disappearing; sleeps well; appetite good.

6th. Still improving. ℞—Olei. tiglii, gtt. xxx; cerat. simplicis, ℥j. M. S. To be rubbed on the spine.

7th. Appetite good; strength increasing.

8th. Bowels opened last night. The cerate with croton oil not producing any local effect, its strength was doubled.

10th. The croton oil cerate was exchanged for coal oil. Under the use of the latter, the patient began to amend, and at the present time, Dec. 1, he is walking about, suffering from nothing but a degree of general debility.

Loss of the Greater Part of the Vitreous Humor in an Operation for Extraction, Followed by Complete Recovery; Case Reported by Mr. W. H. WATKINS, Jr., Ward Student, in service of Prof. Mitchell.

William Needham, aged thirty-one years, born in Ireland, by occupation a coachman, was admitted into the Charity Hospital May 23d, 1867, with contused wound of the face. The parts around the eye were so swollen that it was impossible to open the lids. When the swelling of the face subsided, the eye was found in an inflamed condition, the anterior chamber filled with blood, and the iris dilated to its fullest extent.

He was admitted into the eye-ward on June 5th, and, on June 7th, Prof. Mitchell proceeded to extract the lens, which was dislocated and protruding through the iris. On making the incision, as in the operation for cataract, the whole contents of the eye protruded through the aperture. The lens had atrophied and the whole vitreous humor softened. Fully four-fifths of the vitreous humor was evacuated.

The eye was then bandaged, and ice and a solution of atropine applied. These were removed in one week. The eye had regained its shape, and the anterior chamber was clear. He could see quite well, and when discharged, on June 24th, was improving every day.

(For Annual Statistics of the Charity Hospital, see Editorial Department.)

QUARTERLY RECORD OF SURGERY.

COLLATED BY SAMUEL LOGAN, M. D., PROF. OF SURGERY, NEW ORLEANS SCHOOL OF MEDICINE.

Epiphysary Disjunctions at Lower End of Humerus: Address of Prof. R. W. SMITH, University of Dublin.

I have elsewhere pointed out the error committed by Vidal and others, in supposing that the tuberosities of the humerus belonged to the shaft of the bones, and shall now endeavor to show that a similar error has been committed with respect to the lower epiphysis, of the humerus, and that those authors who have written upon the subject of injuries of the elbow-joint have confounded with each other fractures *above* the condyles and disjunction of the epiphysis, from ignorance of the anatomical fact, *that the lower epiphysis of the humerus does not include the condyles, which belong entirely to the shaft of the bone.* The epiphysis includes nothing but the trochlea and the capitulum. The fundamental mistake of placing fracture through the line of the epiphysis among supra-condyloid fractures (as has been done by Malgaigne, Vidal (de Casis), Dupuytren, and others), has involved the equally glaring error of distinguishing these two injuries from luxation of both bones backwards by the same diagnostic sign, viz., the loss of the normal relation of the olecranon process to the condyles of the humerus.

In the *Gazette Médicale* for 1834, Rognette has published a series of elaborate memoirs upon the traumatic divulsion of the epiphysis; but, when speaking of that of the lower extremity of the humerus, he says that the condyles are detached and drawn backwards along with the bones of the forearm.

Professor Smith having read extracts from the works of the different authors alluded to, proceeded to say :—"The preceding extracts are sufficient to show that disjunction of the lower epiphysis of the humerus is an accident which has hitherto been confounded with fracture directly *above* the condyles, an error from which it may, I think, be inferred that the exact line of junction of the epiphysis with the shaft is not generally known to surgeons. At all events, it is manifest that this line has been supposed to traverse the bone *above* the condyles; whereas, the anatomical fact is, *that those processes belong exclusively to the shaft of the bone, and form no portion whatever of the epiphysis, which comprises only the capitulum and the trochlea,* the capitulum or radial portion, being developed long before the trochlea, or ulnar portion; a fact, the knowledge of which is of practical importance in the diagnosis of fracture through the line of junction of the epiphysis with the shaft, or in other words, infra-condyloid fracture.

The signs which characterize this lesion are such as to permit of its being readily confounded with fracture above the condyles,

or with luxation of the forearm backwards. For instance, the forearm is flexed, the hand is in a middle position between pronation and supination. The olecranon loses its normal relation to the condyles, the breadth of the joint is increased from before backwards, the lower end of the humerus projects in front, and two osseous tumors can be felt posteriorly.

As the loss of the normal relation between the olecranon and the condyles renders the separation of the epiphysis peculiarly liable to be confounded with dislocation of the radius and ulna backwards, I shall briefly mention the signs, by availing ourselves of which we materially lessen the chances of confounding it either with luxation or with fracture immediately above the condyles.

In the case of disjunction of the epiphysis, the transverse diameter of the tumor which can be felt projecting in front is equal to that of the opposite humerus, measured anteriorly from condyle to condyle. In this respect, the injury differs from fracture above the condyles. Again, the outline of this osseous tumor is rounded, presents to the feel none of the irregularities of an ordinary fracture, and upon its inferior surface neither trochlea nor capitulum can be distinguished. But the most striking feature in which it differs from laxation, and which I consider pathognomonic of separation of the epiphysis is, that when the joint is examined posteriorly two osseous prominences are seen and can be felt distinctly; they are both placed above and behind the plane of the condyles, but are themselves situated (if the patient be not more than six or eight years of age) nearly upon the same level. At a more advanced age, the distance between them increases in consequence of the increased development of the interval which is formed by the olecranon.

At no period of life, however, at which it is possible for the accident in question to happen, is the vertical distance between the two tumors so great as it is found to be between those which, in cases of luxation of both bones backwards, constitute so marked a feature of the injury. In the latter accident the distance averages an inch and a half, while in the former it seldom exceeds three quarters of an inch; the external tumor in this case being formed, not by the head of the radius, but by the capitulum of the humerus, still surmounting the head of the radius. There is a cast of this injury upon the table, taken from the arm of a boy aged twelve, who was under the care of Dr. Hughes in 1847. He was thrown down with great violence, and having, in the act of falling, stretched out his arms to save himself, the boy who threw him down fell with all his weight across the back of the extended limbs. I have never had an opportunity of examining post-mortem a joint which had sustained this accident, but I have seen, under the care of the late Dr. Hutton, in the Richmond Hospital, a patient in whom the injury was compound, the extremities of the radius and ulna, surmounted by the epiphysis of the humerus, projecting through a large transverse wound.

Enough has been said to show that implicit reliance is not to be placed upon the loss of the normal relation between the olecranon and the condyles as a means of distinguishing between luxation of the forearm backwards and fracture of the lower extremity of the humerus, and I think I have proved that there is an accident of the elbow, in which the bones of the forearm lose their natural relation to the condyles, and yet that accident is not necessarily a dislocation, but may be a fracture through the line of the lower epiphysis of the humerus.

I shall dismiss the consideration of this injury by stating as concisely as possible the points of resemblance and dissimilarity between it and the two injuries with which it is liable to be confounded, viz., fracture immediately *above* the condyles, and luxation of both bones of the forearm backward.

The symptoms which belong to it, in common with fracture above the condyles, are the following:—Shortening, crepitus, the removal of the deformity by extension, and its tendency to recur when the extending force is relaxed; the presence of an osseous tumor in front of the joint; the increase in the antero-posterior diameter of the elbow. It differs from the supra-condyloid fracture in the greater transverse breadth and regular convex outline of the anterior tumor; in the existence of two tumors posteriorly; in the loss of the normal relation of the olecranon to the condyles. It resembles dislocation of both bones of the forearm backwards in the following particulars:—The transverse diameter of the anterior tumor is the same in each case; so also is the antero-posterior breadth of the elbow; in both the olecranon ascends above the condyles, the limb is shortened, and two osseous prominences can be distinguished posteriorly. It differs, however, from luxation in the existence of crepitus, in the tendency of the deformity to recur, and the circumstances of the anterior tumor being destitute of trochlea and capitulum, and the two posterior tumors being nearly on the same level.—*Edinburgh Med. Journal.*

Case of Dislocation of the Astragalus forwards and outwards—Case of Fracture of the Os Calcis. Under the care of Dr. COOKE, Royal Free Hospital.

THE following cases of rare injuries to the foot were both admitted into the hospital at the same moment on the evening of November 21. They are both progressing favorably, and a daily record of their progress would be superfluous.

Jane J., a healthy young woman, aged 24, was thrown from a carriage. She described herself as having pitched upon her left foot, which was, at the same time, violently twisted inwards.

Upon rising, she found it impossible to put the foot to the ground, as it was forcibly held in its twisted position. Half an hour after, she applied to the hospital, and subjoined is a description of the appearance of the foot on admission. The foot is slightly extended, and rotated inwards to such an extent that the outer margin is the only part which touches the ground. The outer malleolus is extremely prominent, the inner having disappeared in the angle formed by the inversion of the foot. Upon the dorsum is a considerable bony swelling which occupies mostly its outer aspect. Over this the skin, which is much bruised, is tightly stretched; upon manipulation, the articulating surface of the astragalus for the scaphoid bone can be made out tolerably distinctly as occupying the most prominent part of the swelling. The malleoli bear their normal relation to the prominence of the heel; hence it is evident that the tibia and fibula have not accompanied the astralagus in the dislocation. All movement of the ankle-joint is lost, and the patient suffers extreme pain on any being communicated to the foot.

The mode in which the reduction was effected was this:—Having placed the patient thoroughly under chloroform, the leg being fixed by a powerful assistant, extension was made by means of grasping the foot and drawing it steadily downwards and slightly forward. Whilst this extension was being kept up, pressure was made firmly upon the prominence of the astragalus; finally, a movement of flexion was communicated to the foot, when the bone slipped into its cavity with a distinct snap. The foot immediately resumed its normal shape, and was put up in an ordinary swing fracture apparatus, to which one of my water pillows had been adjusted. Considerable constitutional disturbance, rigors, and much swelling followed, these, however, were easily subdued by suitable remedies.

The fracture of the os calcis occurred in a man aged twenty-six. The case resembled in all its features the case which was reported in our journal of October 20, with the exception of there being no wound and all the other symptoms being more marked. As in the former case, the injury was produced by a fall from a height upon the heel, but beyond the fracture of the os calcis I believe there was some fracture of the astragalus, firm pressure in the direction of its head giving rise to crepitus and to a sensation of a loosened piece of bone in this direction. The limb was placed upon an outside splint with a footpiece, the knee flexed, the foot extended, cold evaporating lotions applied. Little constitutional disturbance followed, and the patient is doing well.

December 11.—In both cases the limb was put up in a gum and chalk bandage, and the patients are about to leave the Hospital.—*Med. Times and Gazette.*

The Treatment of Contracted Muscles and Tendons.

THE treatment of contracted muscles and tendons, as advised by Dr. H. G. Davis, of this city, in his work on *Conservative Surgery*, is based upon the good effects of a state of constant tension. The author maintains that whenever any circumstance shortens the relative distance between the points of origin and insertion of any muscle or tendon, there is an absence of the natural stimulus to the normal nourishment of the parts; that, in other words, no more of the nutritive element is effused than is barely requisite to maintain such tissues in their shortened condition. If under these circumstances, extension is employed by the elastic method, the contracted tissues are kept constantly upon the stretch, and are gradually elongated to their normal dimensions. As a consequence of this continuous tension of the fibres, the supply of nourishment is proportionately increased, so that eventually, by the constant supply of new material, the parts actually grow to their natural length and original strength. His observations with reference to this point have, he assures us been amply and satisfactorily proved as the result of fifteen years of experience.

The advantage of elastic extension over other methods consists in the fact that it is constantly kept up, and that, as the muscles or tendons give way to the force exerted upon them, there is always enough power of extension in reserve to keep up the action and follow up the good effects. This continuous tension stimulates the deposit of new material, so that the growth of such shortened tissues is more rapid than under ordinary circumstances. As extension is ordinarily kept up by inelastic bands, the force is constantly liable to be reduced by the relaxation of the appliances, which must, in a longer or shorter time, yield to the stretching to which they are subjected. This principle can be satisfactorily applied to all cases in which it is necessary to overcome undue contraction of the soft parts from any cause save actual organic interruption of nerve power; such, for instance, as in deformities attendant upon contraction after inflammation of the joints, upon the different varieties of talipes, upon the deformities after fractures and old dislocations, and even upon the retraction of the integuments after burns. In the latter case the strain is put upon the surrounding skin by means of adhesive plaster in opposite directions to the contracting forces in the cicatrices. The general plan of treatment has to be modified in accordance with the special indication that may be present in each case, constantly calling the ingenuity of the surgeon into play. He does not consider division of the tendons as at all necessary for the accomplishment of permanent elongation of contracted parts, and affirms that continuous elastic extension, intelligently employed, is all-sufficient to overcome the most obstinate contraction.

In many cases where muscles are firmly contracted, and antagonistic ones, by constant stretching, by derangement of nerve force and deprivation of proper nourishment, are paralyzed, he as-

sisted nature by supplying, by means of india-rubber webbing, an artificial muscle on the paralyzed side. By this means the contracted muscle is not only elongated, but its antagonist is proportionately shortened, and in both instances the power of muscular-co-ordination is regulated by an equal distribution of nerve power.

Again, in order to exercise more power upon the contracted muscles, he employs pressure upon their bellies; at the same time makes use of the elastic extension besides. This is accomplished by employing two sets of adhesive plaster, so arranged fan-fashion, one strip overlapping the other, that they will cross each other over the belly of the muscle. To the smaller extremities of each one of these sets is sewed a piece of elastic webbing to which the extending force is attached. If it is desired, for instance, to make extension by this means upon the extensors of the thigh, strips of plaster are applied from below upwards diagonally across the front of the thigh, first upon one side and then upon the other, the sets crossing each other at acute angles in the median line of the limb. A firm roller is applied over the whole to keep the plasters in position, while, to the ends of the strips as they lay upon each other, on both sides of the knee, strong webbing is sewed for the purpose of connecting with the elastic extension below. Extension being applied, the extensor muscles are not only put upon the stretch, but the diagonal position to the two sets of plasters by virtue of the direction of the strain, compresses the bellies of these muscles besides. This plan of treating muscles is not only applicable to cases of joint-disease and the like, but may be advantageously employed in cases of fracture in which the powerful action of a certain set of muscles obstinately tends to keep up a constant separation of the two fragments. In attaching the elastic webbing to the soft parts, the ordinary adhesive plaster, carefully and smoothly applied, is always used, and is in turn maintained in its position by nicely adjusted bandages.

Next to a fair share of mechanical ingenuity in the use of this method of extension, success is only gained by the exercise of much patience and firmness on the part of the attendant, so that a constant stretching of the parts, day and night, be kept up for weeks. Intermission in such a course, if allowed to occur either by neglect, design, or discouragement, are attended with the loss of much more ground than at first would be expected, owing to opportunities thus granted to the contracted tissues to recover in some degree the strength of habit.

As an evidence of the good effects of this method of extension, Dr. Davis asserts its power to relieve the pain which is sometimes such a distressing accompaniment to some forms of muscular contractions. He believes that the contraction of the muscles around diseased joints is first produced by an effort of the will to hold the parts motionless and in as comfortable a position as possible, and that the muscles getting into the habit of contraction, the exercise of the will is no longer necessary to keep up the contraction. —*Medical Record.*

The Operation for the Cure of Double Hare Lip, by a New and Improved Method: By A. HAMMER, M. D.

THE section on Surgery, of the American Medical Association at its meetings in Cincinnati, in May last, having honored me by the request that I should prepare a full report on the progress in surgery, concerning the treatment of Hare-lip, to be presented at its next meeting, to be held in Washington, in May, 1868, it does not now become me to treat at length on this subject in our Journal. I will therefore confine myself solely to the description of the method, which I have, for the last five years, adopted in all cases of double hare-lip with fissure of the palate.

During a quarter of a century I have had frequent occasion to operate for hare-lip, in all its various forms, single, double and complicated; and I freely confess that for twenty years I was never satisfied with the results obtained, though mine were, on the average, not worse than those of other surgeons. I was frequently amused by looking at plates, where cases of hare-lip were pictured, before and after operation, showing beautiful and perfect results, whereas a comparison between the copy and the original would not have given a very flattering impression as to the ability or truthfulness of the artist.

The unsatisfactory results obtained in my own former practice, and present practice of other surgeons, did not, and do not depend so much on the want of individual skill, as upon the intrinsic difficulties inherent to the nature of the lesion itself, and the deficiencies of the means employed to correct the deformity. The main points to which the frequent failures in double hare-lip with fissure of palate must be attributed are: The rarity of union by first intention in the soft parts, or union of one portion with non-union or connection by ligamentous mass of the remainder; the infrequency of firm union of the intermaxillary bones with the lateral alveolar arches, and the resulting unevenness by lack of proper adaptation with regard to the convexity of the entire superior alveolar arch; the frequent mutilation of the nares, either by closing them up, or leaving them widely separated, the flat nose in the superlative.

Nearly all the difficulties with which the surgeon has to contend, can be overcome by following the method of operating which I have adopted.

The operative procedure consists of two steps: First, to bring the maldirected intermaxillary bones into proper position and to make them fit exactly the opening left in the middle of the alveolar arch. This I accomplish by excising a triangular piece of the septum of the nose, of such an angle as to correspond to the angle made by the projecting inter-maxillary bones with the arch. After it has gently been removed downwards and backwards, the surgeon can judge how much or how little is to be cut off on one side or both, that the gap may be exactly closed. I give preference to this method of changing direction over all others.

Second: To separate, as may be required, the middle lobe from the intermaxillary bones, then to freshen its edges as well as the margins of the lateral parts of the lip, resorting if necessary to auxiliary incisions in various directions according to the peculiarities of the shortening in the soft parts, accompanied by free and extensive incisions over the underlying bone so as to allow of great mobility of the lip. This being done, and the hæmorrhage arrested, I apply a sustaining suture, which is in fact a quill-wire-suture, at a proper distance from the edges, to be united. Two pieces of common, smooth lead pencil, from one and a-half to one and three-fourths of an inch in length, and a strong needle armed with a double wire of a size larger than is ordinarily employed in the usual wire suture, are all that will be required. The needle is passed through the entire thickness of the upper lip on a transverse line striking the point of union between the septum and intermaxillary bones. The needle is made to transfix the integument from without inwards on one side, at a point half an inch posterior or outwards from the nostril, and through a corresponding point, but from within outwards, on the opposite side, and now the two pieces of pencil, one on either side of the face externally, are fastened by the double wire. Another similar suture is applied in the same manner and attached to the same pieces of pencil, about half an inch below the first, more near or remote according to the length of the intermaxillary bones, over which, that is to say in front of which, both wires must pass. By this means we accomplish a complete relaxation of the soft parts, and all tension of the muscles being overcome, the corresponding portions of the cut edges can now be readily approximated, to do which I employ the common wire suture—the wire being very small,—finding it less irritating than silk. Thus the operation is completed, no dressing being required except the occasional application of a little glycerine by means of a camel's hair pencil, upon the united wounds. The wire sutures should be removed at the end of three days, union by first intention having then taking place, while the sustaining suture may be allowed to remain to the sixth, seventh, eighth or ninth day. The wires of the latter in course of time cut somewhat the soft parts, producing four small, transverse, slightly suppurating wounds, which, however, heal without leaving any marked scar behind.

The advantages of the above plan of procedure are so obvious that I need scarcely refer to them, but in brief they are the following:

First, The intermaxillary bones are kept in close contact with the parts with which it is desirable they should unite, by the wires of the sustaining suture.

Second, All strain on the lips being removed, the soft parts must unite by first intention, it cannot be otherwise provided all chemical or mechanical irritants are wiped from the wounds, which can so readily be done by a hair pencil.

Third, The degree of relaxation necessary to properly control and modify the future shape of the nares is entirely at the command of the surgeon.

Fourth, The absence of all dressing which would interfere with free respiration and thereby endanger life.

Fifth, The operation is complete at one session, and comparatively speaking, a very brief space of time is required for complete and permanent union.

Sixth, The surgeon is relieved from an immense deal of trouble and constant attention, which is so necessary when other operative plans of treatment are adopted.

Seventh, The results are admirable, thereby not saying too much.

This method is not altogether new, as it has been resorted to, but only partially and for a different object, by Prof. Bruns, of Tubingen. Many years ago he applied a sort of quill suture, passing out one such beneath the nostrils through the septum narium to prevent too great narrowing of the nares, and in one instance he again applied a single quill suture near the free margin of the lip, in an unmanageable child, lest the lower suture when removed might be followed by rupture of the united wound. His fear in this last instance was certainly to some extent groundless, for in five cases out of six the rupture occurs, not near the free margin, but in the neighborhood of the nares.

The actions mainly of two muscles, viz: the levator labii superioris alæque nasi and the levator labii superioris proprius, has to be overcome. The zygomatici and the levator anguli oris are little to be feared, as any one can convince himself by applying his index fingers to the two sides of his lips, imitating my sustaining suture.

Though the meritorious and highly distinguished Prof. Bruns did not apply the quill suture either in the same manner or for the same purpose, yet I thought it my duty to show that I was acquainted with the fact though irrelevant.

I earnestly desire the profession to give my modus operandi a trial, being assured it will meet with their approval. Of myself I can, without boasting, affirm that I am not now fearful of any form of complicated hare-lip no matter how extreme the case may be, and that I now with pleasure and satisfaction perform an operation which formerly caused me more disappointment than any other one.

Five cases of double hare-lip and double fissure of the palate on which I have successfully operated according to the above plan I will minutely detail in my report to the American Medical Association.—*Humboldt Medical Archives.*

Report from M. TILLAUX (*French Jury*) *on the Orthopædic and Prothetic Apparatus, Trusses, etc., in the International Exhibition*, 1867.

WE have been favored with an early copy of the Jurors' Report on the Orthopædic Apparatus, Artificial Limbs, Trusses, etc., displayed in Paris, in the International Exhibition. It confirms very much the opinion which we had previously expressed, that there was very little indeed of valuable novelty in this department. The English exhibitors, with a few exceptions, shine by their absence. M. Tillaux has had to labor under difficulties in making bricks with but little straw; and, if his report is not little instructive or interesting, we must rather admire his ingenuity in filling up lacunæ, than find any sort of fault with him. He commences by referring to the apparatus for treating Pott's disease; but recommends that none of the ingenious apparatus for rectifying, but only those for supporting the parts, should be used, as the deformity is often only the result of the effort made by Nature to cure the child, and in straightening the greatest danger is inflicted on the patient. Speaking of wry neck, a leathern collar by Mathieu, hardened and moulded and lightened by numerous holes, is commended as an ingenious and simple means for keeping the neck completely straight; and as advantageously substituting in almost all cases the more elaborate apparatus known. The Orthopædic Corsets—of which "the English exhibition is almost nothing" are remarkable for their lightness and elegance, except the armor-plates from Spain. A corset of M. Olgen of Copenhagen, with anterior becoming front, and two of M. M. Robert and Coller, are specially praised. The apparatus for club-foot are too complicated, that of M. Weber is more simple than, and as efficacious as, the others. The *guetre* of M. Mathieu, without screws, is immoveable, exercising an uniform pressure, and is not likely to produce gangrene, which those with screws often produce. The only really and essentially novel orthopædic apparatus displayed at the Exhibition, according to M. Tillaux, are those of Dr. Taylor, of New York; of these, some are intended to correct vertebral deviations after Pott's disease and scoliosis; others to cure infantile muscular paralysis by the sustained exercise and consequent development of certain muscles and certain groups of muscles. We may add that, in this opinion of M. Tillaux we concur, and shall shortly publish a brief series of papers by Dr. Taylor, giving an illustrated account of these apparatus, which deserve the consideration of surgeons.

The Prothetic apparatus include artificial eyes, in which our own makers are really quite unsurpassed, though the reporter has only a good word for M. Boissoneau.

The Exhibition of 1867 is rich in artificial legs and arms; and "England herself, who has not been pleased to exhibit instruments of medical art, is represented here by a distinguished maker, Mr. Masters." M. Tillaux justly observes that there are two different

ends served by these limbs; one of perfect imitation and deception; the other of real utility for the ordinary needs of life. The best artificial arms were, till lately, from this point of view, objects of luxury, and the hook was more useful for working purposes than the hand, although less sightly. M. de Beaufort has, says the reporter, at last constructed an arm as simple as it is useful. He calls it the poor man's arm; a just title, since it is cheap and capable of assisting the working man. The hand works nearly always as a pair of pincers, the thumb forming the branch, and the four others fingers forming the second branch. M. Beaufort has constructed a hand composed of four immoveable fingers, half-flexed, and of the moveable thumb, placed in opposition to the medius, and index. A simple spring in India-rubber adapted to the thumb permits the patient to separate it from or bring it in contact with the other fingers, and the problem of prehension is solved in a most complete and simple manner. A Crimean soldier, who had lost both of his arms, was able with the apparatus of M. de Beaufort to play four games of chess without his adversary suspecting the mutilation. The hand is very light, and infinitely cheaper than those hitherto made, and it is useful. When the amputation is complete and only a stump is left at the shoulder, a simple movement of the stump extends the artificial arm, with the palm of the hand presenting upwards, or flexes the forearm, carrying the hand into prone position. The arm may be fixed at will in the latter (the most useful) position in a very solid manner. M. Tillaux concludes that this is an immense progress in the construction of artificial arms, and leaves really little to desire. In artificial legs, M. Beaufort also, according to the reporter, succeeded beyond others in introducing happy modifications. Remarking that the *pilon* was the apparatus preferred by patients, he has ingeniously adapted a wooden foot so as to increase largely the surface of support on the ground, and to destroy thus the principal objection to the *pilon*. Further, and this is a capital point, the inventor has given to the plane surface of the foot, a convex form which permits the patient to raise himself on the stump, at the same time that he bends the leg to make a step by bearing on the fore part of the foot. He simulates thus the normal mode of walking. M. Tillaux also praises highly an articular artificial leg of the same inventor. Many makers exhibit beautiful apparatus, well-made, capable of deceiving the eye of the observer, but which the patient is happy to abandon for simple *pilon*.—*British Medical Journal*

On the Internal use of Lime in Cancerous and other Tumors: By PETER HOOD, M. D.

WE have heard a great deal lately about injecting cancers with

acetic acid, bromine, etc.; freezing them; burning them; softening them by alkaline, or hardening them by acid caustics; deodorising them; galvanising them. In fact, numerous methods of *local* treatment are being discussed, while *constitutional* treatment is almost abandoned. It may not be ill-timed, therefore, for me to ask attention to the following statements.

Some years ago I was sent for to the borders of Hertfordshire to see a lady who was upwards of eighty years of age, I found her apparently a hale hearty woman, and at first was at a loss to discover why I had been sent for, as she was up and dressed, and appeared as if nothing ailed her. She was naturally of a reserved character, and was a woman possessed of a "strong will." Some little time elapsed without her making any reference to the cause of my summons to her. When I asked her why she had sent for me, she replied to my question by asking me whether I believed that the inner powder of oyster-shells would cure cancer.. I was somewhat surprised at the nature of her inquiry, and answered that I had never heard of such a remedy for the disease. She then literally unbosomed herself to me, and explained why she had sent for me. She undid her dress, and exposed the left side of her chest, which was perfectly flat, and covered simply by a piece of linen. This she removed, and exposed to view an enormous raw surface, which resembled the body of a sheep after the shoulder had been cut from it. The wound appeared comparatively dry, as I observed nothing indicative of any discharge from it excepting a slight sanious discoloration on the linen that had covered it. She told me that she had had a cancer of the breast for some years, and that by a steady perseverance in the use of "oyster shell powder" it had entirely separated itself from her chest as I then saw it. And I could not but remark that no surgical skill could have done it more effectually. She told me that she had lived for some time chiefly on bread and milk, and seldom had eaten any meat. She had never communicated the fact of her having this disease, even to her sister—a lady who was older than herself,—and her maid was the only person who knew of it. How her sister, who slept with her, could have remained ignorant that her bed-fellow was laboring under some horrible complaint appeared surprising; but, on inquiry, I learned that this old lady had lost the sense of smelling.

Although the diseased mass had separated itself from this lady's person, there still remained the peculiar odor common to external sloughing cancer. I inquired how it was she had resorted to this remedy, and she gave me the following history almost *totidem verbis:*

"Some years ago a gentleman living near the town in which she resided had a tumor in his cheek as large as a small orange. It was about the time that the late Sir Astley Cooper gave up practice in London and came to reside at Hemel Hempstead. This gentleman thought he could not do better than go and consult Sir

Astley about this tumor. Sir Astley saw it, and told him that it was a cancerous tumor; and strongly advised him to submit to its removal. This the gentleman objected to have done; when Sir Astley told him that unless he did he would not live beyond six months. On the following Tuesday, being market day, this gentleman was riding through the town, when an old woman accosted him by saying: 'I hope, Sir, you will pardon me; but, seeing your face tied up, may I ask you what is the matter with you?' His reply was: 'My good woman, I have a cancer in my cheek; and Sir Astley Cooper says I shall not live six months.' She rejoined: 'If you will try an old woman's remedy, I am sure it will cure it.' This the gentleman agreed to do; and in less than six months the tumor disappeared, and he got perfectly well."

This lady knew all the parties, and it was the success which attended the remedy in this gentleman's case which induced her to employ it in her own. The following is a verbatim copy she gave me of the directions for using the oyster-shell powder:

"*For a Cancer.*—"Bake a quantity, say half a peck, of oyster-shells for three nights in a slow oven. Then scrape out the *small white* part of the shell, powder finely, and take as much as will lie on a shilling once or twice a day in a little warm water or tea. If that affects the system too much leave off a day or two, and commence again.

"Should an ointment be thought desirable, mix the powder in cream, lard, or quite fresh butter without any salt in it, and apply it.

"This treatment generally requires perseverance for three or four months before its effects are seen.

"The shells to be used are those which are *concave*."

This lady lived for two years after my first visit to her, and ultimately died in an epileptic convulsion, when she was apparently in her usual health. The wound resulting from the separation of the cancerous breast never entirely healed, but she never complained of any discomfort from it.

I have been in possession of these facts for some years, but should not have made them public, owing to the difficulty I felt in explaining the *modus operandi* of the apparently simple remedy of powdered oyster-shells in so formidable a disease as cancer, notwithstanding that I had seen in the case of the lady recorded so remarkable a result from the use of the remedy, and having every reason to believe, from her known truthfulness, the account she gave me of the gentleman who had experienced such decided benefit from it,—had it not been for a conversation I had recently with Mr. Spencer Wells, to whom I related the substance of the foregoing statement. He informed me that he attributed the efficacy of the remedy entirely to the lime contained in the powder. He told me that since he had read Dr. M'Clintock's observations some years ago on the influence of chloride of calcium in checking hæmorrhage in patients who had fibroid tumors of the uterus, he had used lime largely in the treatment of these and other tumors;

and he had become convinced that an atrophy and calcification of fibroid tumors, resembling the spontaneous change or degeneration not unfrequently observed in such tumors, was often produced or hastened by the use of lime. And he added that he had reason to believe the change commenced in the coats of the arteries supplying the tumors with blood; that these coats underwent first an atheromatous, afterwards a calcareous degeneration—in either case with a diminution of the calibre of the vessels and a lessened supply of blood. If the lime were too long continued, he believed that all the arteries in the body, not those in the tumor only, began to degenerate; the first evidence being the formation of an arcus senilis around the cornea.

This explanation appeared so philosophical, that I felt I ought no longer to observe silence on a subject of so much importance, but to submit the knowledge of it to those whose opportunities of seeing diseases of a cancerous nature are greater than mine, and who might feel disposed to give the remedy a trial; as it is one that is not likely to do harm, and *may* in some instances do good.

If there be any force in the reasoning of Mr. Spencer Wells on the facts which he has observed, I cannot see why the nutrition of malignant tumors should not be as readily affected by inducing atheromatous or calcareous degeneration of the vessels which supply them with blood, as the nutrition of innocent tumors would appear to be.—*Lancet.*

On the Treatment of Enlarged Glands, etc., by Injection of Solutions of Iodine and Iodide of Potassium through a Perforated Needle. By WILLIAM MARTIN COATES, M. R. C. S., Surgeon to the Salisbury Infirmary.

IN the number of the *Medical Times and Gazette* of July 27, 1867, there appeared a short well-written communication by Dr. Marston, of Devizes, entitled "An Hypertrophied Cervical Gland treated by Injections of Iodine," and in the latter part of the paper is a suggestion that other tumors and enlarged glands, in cases in which the skin has remained unbroken might be treated successfully in the same manner.

This idea has been familiar to me for upwards of two years, and during 1866 and the present year I have tested it largely, with results of a most important nature and extent. Not only so, but I have succeeded in curing strumous and cold or chronic abscesses, without leaving scars, psoas abscess, bronchoceles (cystic and solid), ganglia, enlarged bursæ (including housemaid's knee), thick nævi, strumous diseases of joints, and encysted tumor; and in one remarkable case of strumous abscesses, strumous disease of, and suppuration in, the middle joint of the forefinger, great thickening

of the first metatarsal bone, and to the fifth metacarpal bone, every vestige of disease disppeared under this treatment, aided by iodide of potassium, cod-liver oil, and iron, administered internally. The injections were thrown into the midst of each locally affected part in June, 1866. The child is perfectly well, and what is very interesting in this case is, that there is perfect motion of the once diseased and suppurating joint of the forefinger.

In July, 1866, I injected into masses of enlarged glands of the neck undiluted compound tincture of iodine in the Salisbury Infirmary in two patients, with the effect of dissipating the enlargement in one case and of diminishing it in the other. In neither of these cases was there ulceration. I also injected, in August, 1866, the same preparation into an enlarged post-cervical gland of a gentleman who applied to me for strumous abscesses under both jaws. The gland was of the size of a walnut. It disappeared without suppuration.

In February, 1867, I had the following case under my care in the Salisbury Infirmary:—

A dark strumous-looking boy applied with a mass of diseased glands under the base of the lower jaw, on the left side, with an unhealthy ulcer of the size of a crown-piece. I directed a drachm of the compound tincture of iodine to be injected into the midst of the mass by means of Wood's syringe. This was done by the House-Surgeon. The boy was brought to me two days afterwards, as the swelling and pain of the diseased part were great. A week's poulticing relieved the tension; the glands gradually diminished in size, the ulcer took on healthy action, and in eight weeks it had cicatrized, and now the boy is quite well.

As I am preparing to publish at length the results of this treatment, and have abstained thus long with the view that any paper or treatise I may write may be as complete as possible, I will merely add that I anticipate success in some other diseases in which I have had no opportunity of testing the treatment. I will mention two—ovarian dropsy, and such fibroid tumors of the uterus as can be easily reached by a perforated needle.

It will be seen by reference to the *Lancet* of March 3, 1866, p. 225, that I have already published the success of this treatment in "spina bifida, ranula and glandular tumors of the mamma with cysts." Several of my medical friends are trying this my mode of treatment, and I am sanguine of having at my disposal, at no distant period, a large mass of evidence on this important subject. *Medical Times and Gazette.*

Case of Spina Bifida with Talipes Varus, Seemingly caused by an Ante-Partum Impression made on the mind of the Mother: Reported by Dr. MADGE, to the Obstetrical Society of London.

MRS. I., the mother of the child, when a few weeks advanced in

her third pregnancy, removed to a new residence, and soon afterwards she met on the stairs a male inmate, of whose presence in the house she was not aware, and who had a crooked spine and club-feet. The sight of this deformed person, who was making struggling efforts on "all fours" to go upstairs, made a great impression on Mrs. I.'s mind; and when the child was born, at the full term, it was found to have spina bifida in the lumbar region and club-feet. When the child was about seven months old, it became suddenly ill, and the tumor became opaque, and its surface mottled as if from the effects of a blow or fall. The child died in a few days. Mrs. I. changed her residence, and has since been twice confined, and the children born have been free from deformity. Dr. Madge would not venture to say that the powerful impression photographed, as it were, on the mother's mind, in this instance, had anything to do with the deformity of the child; but if the occurrence could only be regarded as a coincidence, it was a very striking one.—*British Medical Journal.*

The Bichloride of Methylene as a Substitute for Chloroform; Lecture by B. W. RICHARDSON.

WHEN I had learned by repeated experiments that the bichloride of methylene could be safely administered to inferior animals, I inhaled it myself until it produced insensibility. I found the vapor very pleasant to breathe, and little irritating, while drowsiness came on and unconsciousness without any noise in the head or oppression. I recovered also as the animals seemed to recover—at once and completely. I felt, in fact, as though I had merely shut my eyes and had opened them again. In the meantime, however, I had performed certain acts of a motor kind unconsciously; for I inhaled the vapor in the laboratory, and there went into sleep, but I awoke in the yard adjoining. This was on September 28th last. I inhaled on the occasion from a cup-shaped sponge. Since then, I have inhaled the vapor in smaller quantities from several instruments with the effect of proving that there is little difference required for administration between the bichloride and chloroform. The bichloride may be inhaled from a moist sponge, from a baloon or Clover's bag, or from a funnel such as this, made by stretching a few layers of thin cloth over a small wicker work such as is used for surrounding a flower pot, and which opens or closes to any size that may be required. A metallic inhaler such as Snow's chloroform inhaler presents too small a surface for evaporation. In the course of administration, a little more bichloride of methylene is required in the earlier stages than would be required if chloroform were being used, the fluid being more easily vaporizable, and the loss greater. One drachm of bichloride to forty grains (or, in common

phrase, minims) of chloroform is a fair statement of the difference required; but when the narcotism is well set up, less of the bichloride is needed, in animals, to sustain the effect, the repetition of the administration not being so frequently demanded.

Like all anæsthetics given by inhalation, the bichloride of methylene has the power to destroy life. Its safety as a general anæsthetic must, therefore, be excepted as relative rather than absolute. I have tried to ascertain its relative value with as much care and candor as I could summon, and the result of my work leads me to hope that the balance of safety is on the side of the bichloride. Three observations bring me to this reasoning. First, I find that if two animals of the same age and kind, say pigeons, be placed in chambers of the same size, and exposed at the same temperatures, and under other conditions the same, to equal values of chloroform, tetrachloride of carbon, and bichloride of methylene, the resistance to death will be as fourteen to five in favour of the bichloride of methylene against the tetrachloride of carbon, and as fourteen to nine against the chloroform.

In the second place, when animals are exposed until they are killed by these vapors there is a marked difference in the maintenance of muscular irritability. The tetrachloride of carbon destroys the muscular irritability first, the chloroform next, and the bichloride of methylene last, and this difference I have found so striking as to represent in one experiment a period of seven minutes for extinction of irritability by the tetrachloride, twenty-three minutes for the chloroform, and fifty-eight minutes for the bichloride of methylene. This distinction rests, I think, on differences in the amount of chlorine in the three substances, and I point out the fact not merely as showing the lower destructive power of the bichloride, but as affording a hope that in a case of accident from it the means resorted to for restoring animation would be more likely to succeed, the muscular power remaining more directly under the influence of excitants to renewed action and for a long interval.

Thirdly, the condition in which the lungs and heart are left after death from the bichloride is favorable. On this subject I may point out that after death by narcotic vapors there are three distinct conditions produced, depending on the nature of the gas or vapor that has been inhaled. Thus, in sixty-eight deaths from chloroform in the lower animals, I found that the lungs were left bloodless, the right cavities of the heart intensely engorged, and the left cavities empty.

In death from carbonic acid, and sometimes, but not always and never in so marked a degree, from ether and from tetrachloride of carbon, the lungs are left congested with blood, and both sides of the heart contain blood.

In death from bichloride of methylene the condition is midway betwixt the two preceding. Here the lungs contain blood, and both cavities of the heart contain blood. In fact, the column of blood from the right to the left side of the heart remains unbroken, while the pulmonary vessels and the cardiac cavities are under

no undue distension. This condition is very favorable for efforts at resuscitation.

To sum up these researches, I would give to the bichloride of methylene the following characters:—

1. It is an effective general anæsthetic, producing as deep insensibility as chloroform.

2. In action it is rather more rapid than chloroform but to develope effects more of it is required, in the proportion of six parts to four.

3. It produces a less prolonged second degree of narcotism than other anæsthetics.

4. When its effects are fully developed, the narcotism is very prolonged, and is reproduced with great ease.

5. Its influence on the nervous centres is uniform, and it creates little, if any, disturbance or break of action between the respirating and circulating functions.

6. Its final escape from the organism is rapid, so that the symptoms of recovery are sudden.

7. In some cases it produces vomiting.

8. When it kills it destroys by equally paralyzing the respirating and circulating mechanisms.

9. It interferes less with the muscular irritability than perhaps any other anæsthetic.

10. It combines with ether and with chloroform in all proportions.

Since the lecture above written was delivered I have been enabled to test the action of the bichloride of methylene on the human adult subject in five long and severe operations. Four of these were cases of ovariotomy performed by Dr. Spencer Wells, and the period of narcotism in each case averaged from thirty-five to forty-five minutes. In all the cases, except one where Weiss's inhaler was used, the anæsthetic was administered from a simple mouthpiece made of a layer of parchment paper stretched over a light frame of wood, and lined on the inner surface with lint. The quantity of bichloride of methylene used in each case averaged a little more than a fluid drachm each five minutes, two drachms being first used. In all the cases the administration has been safe, and the recovery from the effects of the narcotic good. I noticed specially that in each case the transition from the first to the third degree of narcotism was very brief; that when the anæsthesia, which was complete in an average of five minutes, was well established, it was easily prolonged for six, and even seven, minutes without readministering the vapor, and when recovery began to show itself, very brief readministration quickly reproduced the insensibility. In one case after the operation, the patient continued twenty-seven minutes in unbroken sleep, and then awoke with entire consciousness.

It happened that one of the ladies to whom I gave the anæsthetic had once been under chloroform, Dr. Snow having been the administrator. This lady was therefore able to compare the effects of the two agents, and she gave her verdict strongly in favor of

the bichloride. She said it caused no sense of suffocation, no ringing sounds in the head, no nausea, and no after depressing effect whatever, as chloroform in her case did; but it allowed her to drop into sleep precisely as in natural sleep, and to wake with all sense aroused as after natural sleep.

On the whole, the results of practice, in so far as they go, have fully realized my expectations. Only two adverse points, and those minor, occur to me. In one case—after operation for vesico-vaginal fistula—the patient, who recovering from the anæsthesia without any means, had, I learned, ten hours afterwards, a bilious vomit. It would be unfair to put this against the anæsthetic, but the fact should be stated. In another case, the anæsthesia having been carried very deeply, the tongue of the patient was retracted into the throat, and, after pulling it forward, there was a free secretion of saliva, followed by an eructation and about a dessert-spoonful of fluid from the stomach. This might have been excited by the irritation communicated to the throat in pulling up the tongue, or it might have been from the anæsthetic. In all the cases the recovery from the anæsthetic was in every sense satisfactory.

It is already stated in the lecture that bichloride of methylene mixes with ether. I have tried this mixture in experiment as an anæsthetic, using equal parts of ether and bichloride. The compound anæsthetises quickly, and the action is characteristically modified. The ether materially shortens the duration of the insensibility, there is less freedom of respiration, and more excitement. On the whole, I do not at this moment see any advantage in the mixture over the simple bichloride. I leave the point open, however, for future study.

I leave the bichloride of methylene with the Profession for its observation and experience. I have proved the agent, by experiment on the lower animals, to be a good general anæsthetic. I have inhaled it myself with safety, and I have administered it to the human subject with success in the extremest operations for which general anæsthesia is demanded. Here, as an individual inquirer, I come back into the ranks and rejoin the rest of my brethren as an observer. Having no other ambition than that of being a physician in the widest sense; having even a painful aversion to specialty, and having no desire to press any subject unduly, I have produced this lecture as a contribution to pure science and nothing more; holding myself as free as any one else to condemn, improve, or approve, as future knowledge, framed and square and fitted by wisdom, shall determine. When twenty thousand persons shall have slept away pain under the influence of "Chloromethly," as Mr. Spencer Wells has tersely named the bichloride of methylene, and those of them who have slept too deeply shall be counted as fewer than ten, an advance over chloroform will have been proved, but not sooner, nor with less of that tribulation through which we must ever attain to the good that is great and persistently beneficent.—*Medical Times and Gazette.*

Removal of the Scapula, Upper Extremity, and part of the Clavicle.

On Saturday, Sir William Fergusson performed one of those great operations for which he has rendered himself and King' College Hospital so famous. The large theatre was crowded in every part with men of all ranks and degrees in the profession, from the freshman to the old practitioner of sixty or seventy. The great operation was the removal of the whole upper extremity, including the scapula and part of the clavicle, for malignant disease of the scapula. The patient was a carpenter from Sydney, who, two years ago, received a slight wound on the shoulder-blade. In course of time—whether in connexion with this wound or not cannot be said—a tumor formed, enlarged, and gradually involved the whole bone, extending in front and to a certain extent implicating the humerus. The patient was recommended to come to this country, which he did, and was admitted into King's College Hospital, when Sir William, after carefully examining, deemed it proper to perform the operation referred to rather than attempt the removal of the scapula alone. To this end he first cut down upon the clavicle, cut it across, thus setting the shoulder free and permitting free access to the artery for the purpose of compression. This was most beautifully done by Mr. Wood. Incisions were then made for the removal of the integument from the scapula itself, which by a dexterous twist of the shoulder, was brought forward and separated from its attachment to the ribs from behind forwards. Finally, the necessary cut was made in front for the separation of the limb, and the removal was complete. The whole operation was performed with wonderful dexterity, and in almost less time than we have taken to describe it. Notwithstanding the magnitude of the operation, very little blood was lost—certainly not more than six ounces. Sir William performed a similar operation some two years ago on a young woman, who has since recovered most perfectly. Unfortunately in the present instance the success was not to be similar, for the patient sank and died on Monday.—*Medical Times and Gazette.*

On the Results of Excision of the Knee-Joint at King's College Hospital during the last year, Commencing October 1, 1866. Read befor the Medical Society of London : By Mr. Henry Smith, President.

He commenced his paper by referring to the history of the operation in this country, and to the effect which the visit of the late Mr. Jones to the Society fifteen years ago with two patients on whom he had operated had exercised upon many of those who

were discussing the propriety of excision of the knee-joint at that time. It was not his intention to enter into any particular discussion as to whether the operation was a proper one or not, as that point had long ago been solved, but he was anxious to give the Society the experience of a number of cases which had occurred to the several surgeons in King's College Hospital during a given period, and without any selection or discrimination. This would, he thought, be a fair way of coming to some sound conclusion as to the nature and value of the operation in particular instances. Before doing this, however, he could not help criticizing severely the views of Dr. Kirkpatrick, of Dublin, who, in a paper recently published, opposed excision of the knee-joint, but recommended in the very early stage of joint disease a process of cutting and cauterizing which seems hardly to be warranted. During the last year, commencing from October 1, there had been fourteen operations of excision of the knee-joint by Mr. Smith and his colleagues at King's College Hospital, in various conditions of disease. The results had been, as regards mortality, only two fatal cases out of the fourteen. Mr. Smith gave brief details of each case. The two fatal cases were mentioned first; one was a young woman, the other a little girl, who died a few days after the operation from pyæmia, the most fertile source of death. The other cases detailed were instances of the operation for more or less extensive disease of the joint combined with deformity. In one case Mr. Smith performed the operation twice on the same patient, a boy, with an excellent result. In another instance the patient had been strongly urged by the surgeon of another hospital to undergo amputation of the thigh, but by excision a good result was produced. Two instances also of most extensive deformity combined with disease were detailed, and casts of the limb both prior and subsequent to the operation were shown. Three of the patients on whom the operation had been done by the author were exhibited to the Society. The author concluded his paper by stating that he trusted he had shown that the operation of excision was not such a fatal operation as it had been represented; and he called attention to the absence of shock or other severe suffering after it; and he wished especially to call to mind that in not one single case was the operation done for deformity alone.

Mr. Bryant, after thanking Mr. Henry Smith for his interesting paper, remarked that there was still some doubt as to the propriety of performing the operation at all; but the great question to decide was the selection of proper cases. The patients that had been exhibited showed very satisfactory results, and he was glad of the opportunity of seeing them. He would, however, like to see them a year hence. There were many cases on record of alleged cures after excision, and in many of these cases re-excision or amputation had subsequently been performed. Such results were not favorable to excision. It sometimes happens after amputation that we have to remove a conical stump, but this very rarely occurs. In excision the surgeon does nor take away the

joint; he removes a mere disorganized tissue. Mr. Bryant had lost no opportunity of examining parts removed, and of the pathological specimens he had seen there were many in which he would have been very sorry to perform excision. He did not doubt Mr. Smith's practice in the cases brought before the Society, but he very much doubted the propriety of performing the operation in those cases which would get well if left to nature. Mr. Bryant asked Mr. Smith what were the statistics generally of mortality after excision.

Mr. William Adams said that he had for some time opposed excision in children, but his views had become very much modified. He spoke of the simplicity of the operation, as not involving large vessels or nerves. He had had two cases, with very good results, but he had seen others in which the limb was four or five inches shorter after the operation.

Dr. Althaus remarked that when he was in Jersey, he ascertained that many of the cases occuring in Mr. Jones's practice turned out most unfavorably. Mr. Jones has often operated against the wish of his colleagues.

Mr. Francis Mason said that Mr. Smith had not selected his cases, but had brought before the Society the results of fourteen consecutive cases. This was fair enough. Mr. Mason believed in the operation of excision in proper cases, and thought the patients exhibited were a sufficient evidence of its value.

Mr. Rogers-Harrison thought that one of the cases he had seen would some day require re-excision or amputation.

After a few observations from Mr. Trevor and Dr. Kemphorne in favor of excision.

The author replied. He said he was much gratified with the discussion; he would bring as many patients as he could in a year's time to the Society, so that Mr. Bryant, M. Rogers-Harrison, and others might have the opportunity of judging for themselves. Had he picked the successful cases, then he might, indeed, have astonished many of the gentlemen present; but, as Mr. Mason observed, he had simply given them the results of twelve months' experience, and had taken fourteen consecutive cases. In reply to Mr. Bryant, he said that the statistics of mortality were fully published in Mr. Price's work. Respecting Dr. Althans's remarks, he said he knew for a fact that Mr. Jones, of Jersey, had had only one death out of fifteen. It was true that some of Mr. Jones's cases were not attended with the most satisfactory results, but in many the limbs were very useful.—*Medical Times and Gazette.*

On Stricture of the Rectum: By JOLLIFFE TUFNELL, ESQ., Examiner in Surgery in the Royal College of Surgeons, Ireland; Surgeon to the City of Dublin Hospital, and Dublin District Military Prison; etc.

I do not, upon the present occasion, purpose to do more than very briefly bring before the members of the association a mode of dilatation which, in cases of stricture of the rectum, I have found to be most successful; and to exhibit to the members of the association present the instruments by whose agency the advantages referred to may be brought about. The bougies in question can be employed in every case of stricture of the bowel that is accessible to the surgeon's touch, and which from its nature he may consider to be suitable for dilatation. In malignant cases, they also afford the means of giving much temporary relief.

The bougies, then, which I now exhibit, differ from those previously in use in being hollow, the extremity open, and terminating with a feather edge; the diameter of the aperture being equal to that of a No. 12 catheter or urthera bougie, and passing freely over a central guiding-rod.

The principle here adopted was, I believe, first employed by the late Mr. Hutton in the construction of his railway catheter. It at once gives to the surgeon the power of conducting the bougie safely and certainly through a stricture, no matter how contracted the orifice, how tortuous its course, or how diseased the coats of the intestine itself may be. The stricture once penetrated, the guiding-rod becomes no longer necessary, and now, upon its withdrawal, free exit is given through the central passage of mucus, pus, blood, or other secretions, gaseous or fluid, which may be occupying the pouch-like dilatation, which exists in almost every case of aggravated stricture.

Not only can all irritating and obnoxious secretions be thus got rid of, but a stream of tepid water can be gently injected up into the cavity of the bowels above the stricture, dissolving and breaking down any fæcal lumps which may have lodged themselves above the obstruction. The patient is thus freed from that accumulation which produces the main source of suffering in this disease. It permits, too, the use of sedative or astringent injections being employed, and brought into direct contact with the ulcerated portions of the intestinal tube.

In using the tubular bougie, the forefinger of the left hand is to be passed up into the rectum until its tip is firmly pressed against the stricture, and the extent and density of the contraction thereby ascertained. The point of the thumb is then to be applied to the forefinger close up to the arm, and retained as the finger is withdrawn, thus taking an exact measurement of the distance of the stricture from the anus. The guiding-rod is next to be placed alongside of the finger, and an indentation made upon it into the nail of the right forefinger, at the point corresponding to the extreme length previously inserted. This done, allowance

must be made for the extent of the stricture itself; and to this a further amount of at least an inch must be superadded for the passage of the guiding-rod beyond the stricture up into the bowel. In this way, an exact knowledge is gained of the length of guiding-rod required in order to secure a certain transit through the contracted portion of the contracted intestine. A distinguishable mark is now to be placed upon the guiding-rod, by tying a piece of fine, but strong, white ligature silk tightly around it, the elasticity of the gutta percha readily permitting of this being done, without the bougie displacing the silk in its subsequent passage over it. A similar mark is next to be tied round the bougie itself at such point as the surgeon may determine, according to the degree of distension which it may be desirable to employ. These distances being once noted, the marks remain *in situ* until removed, so that the preliminary steps here detailed are required only at the first examination. When proceeding to dilate, the left forefinger is to be introduced into the bowel, up to, and if possible into, the stricture, the guiding-rod (well lubricated at its extremity), slid up by the side of the finger until it reaches the contraction, when, manipulated by the right hand, it is to be passed into and through the stricture until the requisite distance for its introduction into the bowel shall be demonstrated by the silk mark being about to disappear within the anus.

The tubular bougie (well lubricated also with an anodyne or sedative unction) is now to be placed over the projecting end of the guiding-rod, and passed along it into the rectum and through the stricture. The length of its insertion being determined, in like manner to that of the guiding-rod, by the silk mark fixed upon it.—*British Medical Journal.*

Traumatic Destruction of the Posterior Portion of Urethra, Sloughing of Scrotum and Restoration of Parts: By GEORGE WILSON, M. D., New York.

THE case was one of traumatic destruction of the posterior portion of the urethra of some ten inches in extent, with sloughing of a large portion of the scrotum, so that both testes were freely exposed to view, with restoration of the continuity of the parts. A young man about twenty years of age, a painter by occupation, was engaged on a warm day in June, in painting the front part of a three-story house. At the time of the accident, he was standing on the window-sill of the second-story painting the outside sash; on raising his hand up to push down the top sash, he lost his balance, turned a somerset as he fell, and landed astride the iron railing in front of the area, which was slightly bent by the weight

of his fall. He was conveyed to his house; and on examination, I found a fracture of the pelvis on the right side through the pubic portion—with laceration of the lower portion of the penis involving the spongy, and as I afterwards thought, the bulbous portion of the urethra, with severe contusion of the scrotum and testes, so that through the wound there was a strong seminal odor, which at the same time caused me considerable uneasiness for fear of loss of one or both testes. After bringing about reaction, which was very slow, however, the nervous shock being so great, the first thing he complained of was a feeling of fulness in the region of the bladder, with a desire to urinate, and an inability to do so. After some difficulty, I finally succeeded in introducing the catheter, and drew off a large quantity of blood, which, from the heat of the body and the weather was inclined to coagulate, and which added greatly to the difficulty of getting it to flow through the catheter. I judged from the hæmorrhage, that the bulbous portion of the urethra was involved in the laceration, and that the hæmorrhage came from the artery of the bulb. In the course of a couple of hours I again introduced the catheter, and found that the hæmorrhage still continued, and drew off a considerable quantity more of blood. I then surrounded the scrotum and hypogastric region with pounded ice, and allow the catheter to remain in the bladder, and in this way I finally succeeded in arresting the hæmorrhage. At the same time I kept giving him stimulants, and in that way managed to keep life in him, which at times seemed to be fast ebbing away. The next morning, I was suddenly called to see him, as his attendant thought that he was dying, and I do assure you he was very near it. I was by his bedside, and gave him carb. ammonia dissolved in brandy and water until he gradually rallied; he had one more sinking turn, and after that he went along and made very fair progress towards recovery. The contused parts went on sloughing, so that finally the catheter was exposed for some two inches in extent; then followed purulent infiltrations in the scrotum, which were relieved by free incisions; then came sloughing of the scrotum in which both testes were freely exposed, so that as the scrotum lay upon a cushion which supported it you could take them between your fingers. The catheter I kept constantly in the bladder, removing it about once in twenty-four hours, as at the end of this time there was considerable deposit of earth phosphates upon the end of it, which caused considerable distress to the patient on withdrawing it, and also retarded very much the healing process, owing to the rough accumulation lacerating the parts on its withdrawal, and undoing all that I had done in getting the parts to heal. But by steady perseverance day by day, we gained little by little; the parts began to heal kindly, the deposite on the catheter grew less and less, and still keeping the catheter in the bladder until the parts had all grown over it, and by drawing the scrotum together, we succeeded in getting that to heal also with nothing to open; so that to all appearances he was

as good as ever, as far as practical purposes were required. The testes gave me no trouble, and I presume that they were in their normal condition. He got married afterwards, but whether he ever had children or not, I do not know. The fracture of the pelvis I treated with a broad leather belt, which was made to buckle snug around, and which answered all the purpose for which it was required. I attributed the recovery in this case in a great measure to the patient himself. At the time of the accident his system was in a very good condition; he possessed a great deal of nerve, very sanguine and buoyant in his temperament; he had a good deal of what is called *vis vitæ* or tenacity of life. Had he not possesssd this physical organization he would most undoubtedly have sunk; but possessing it, he rallied, clung to life, and recovered.—*Medical Record.*

Treatment of Aneurism: Advantages of completely arresting the current through the Sac: By E. D. Mapother, M. D., Surgeon to St. Vincent's Hospital; Professor of Anatomy and Physiology, Royal College of Surgeons, Dublin.

The treatment of external aneurisms by compression, one of the greatest of modern surgical improvements, was established by Dublin surgeons. They advocated such a degree of compression as would send the blood gently flowing through the sac; layer after layer of coagula being expected to form, as happens, it was asserted, when aneurisms cure spontaneously. Arrest of current, and clotting of the blood in the sac, were deprecated; but it seems to me that the following cases show that these events are, on the contrary, most desirable.

Case I.—J. D., aged 25, healthy, was admitted into St. Vincent's Hospital January 14th, 1865, for the right ilio-femoral aneurism, which had begun without injury five months before. Digital and partial instrumental pressure having failed, I tried to stop the common iliac with an elastic compressor, the patient being kept under chloroform for twelve hours. No clot formed. An anthracoid slough formed at the point of pressure.

Five days afterwards, another attempt was made, after the following preparatory steps. The abdomen was made lank by emptying the bowels and bladder; the limb was raised, bandaged and fixed to aid venous return, and to render increased flow of blood for muscular action unnecessary; and the sac was compressed by an elastic roller, so as to contract the space to be filled by the clot as much as possible. At Dr. O'Ferrall's suggestion, the superficial femoral was stopped, so as to keep the sac full. Signoroni's clamp was then fixed over the common iliac artery for four and a half hours, when the tumor was found solid and pulseless, the

common and external iliacs being still pervious. Absorption and complete cure followed.

Case II.—J. B., aged 35, healthy, was admitted into St. Vincent's Hospital, May 1866, for left popliteal aneurism, which followed a strain a fortnight before, while getting down from his cab. The sac was as large as a turkey-egg, and towards the biceps appeared diffuse. Digital and elastic instrumental pressure failing, stoppage as complete as could be achieved in a very restless patient was kept up for five hours, when the sac was found pulseless. Thirty-six hours afterwards, pulsation recommenced. After three other attempts, unsuccessful because chloroform was refused, the femoral at Scarpa's triangle was compressed, and the flow of blood out of the sac was impeded by tight bandaging and elevation of the leg, distal pressure on the popliteal not being possible. The patient was kept apathetic, not insensible, with chloroform, for nine and a half hours, when the sac was found hard and pulseless. At the compressed point, a superficial slough formed; but, with this exception, the recovery was rapid and perfect.

In both cases, bromide of potassium internally, and ice locally, gave aid by lowering the circulatory force. A good meat diet was given, to increase the plasticity of the blood; but drink was not restricted, for it is unphysiological to suppose that thus we can thicken that fluid. Fresh vegetable food augments the plasticity of the blood in scurvy, and may be reasonably allowed in the diet of a patient with aneurism.

Pain has been the great obstructive to partial compression; and complete pressure would be unendurable without chloroform, that inestimable boon, which we owe the genius of Simpson. By acupressure, also, that philosopher has enabled us to treat cases such as the innominate aneurism now under Mr. Porter's care, in which compression was inapplicable, and ligature would be mortal. Chloroform darkens blood, but does not lessen its coagulability.

Distal pressure should precede and accompany proximal pressure; for thus the sac is kept full of blood at rest, and the resulting clot will equal its cavity. During the many hours which elapse before the separation of clot and serum is complete, the sac will probably contract on the clot, while the serum oozes away or is absorbed. In popliteal or antecubital cases, distal pressure being impracticable, Mr. Hart's flexion plan may achieve the same object. I doubt that an aneurism has ever been cured by such pressure as would only lessen the calibre of the artery leading to the sac; for then the flow of blood being quickened, and the efferent vessel being larger, the blood would not remain long enough to clot. The blood flowing in would carry the agent to which the fluidity of fibrine is due; but, if the blood in the sac be isolated, this volatile agent may permeate its coats. In cases said to be cured by partial compression, it is probable that, the pressure having been increased to the amount of complete arrest for a

short time, clotting in the sac, or plugging of the artery below it, produced the cure; for the pulsation is usually reported to have suddenly ceased. Digital pressure has of late been most successful, because it is usually employed to the degree of complete arrest. The evidence to prove that, in cases cured by partial compression, the sac is filled by laminated fibrine, is most insufficient; and, in fusiform aneurisms or sacculated aneurisms freely opening into the ruptured artery, it is impossible to conceive such an occurrence. In the fifty-three cases cured by compression, and detailed in the *Nouveau Dictionnaire de Mèdecine et de Chirurgie*, nine solidified under twelve hours, and four under four hours, in which time this much talked of stratification could not have been accomplished.

A few hours (perhaps less than an hour, as in Dr. Murray's aortic case) suffice to clot the blood isolated in the sac; while cure by partial compression takes, on the average, twenty-five days. One believer in the method persevered in it its use for nine months. The anxiety and confinement probably lessen the coagulability of the blood; and it has only succeeded in 62 per cent. of the cases in which it was tried. Complete pressure has succeeded in at least four cases; and I am not aware that it has ever failed. With two pressing points, and as soon as experience reduces the time of pressure to a minimum, sloughing need not be feared. In conclusion, I claim for this method greater rapidity and greater certainty than partial compression, and far greater safety than deligation.—*British Medical Journal.*

On the use of Carbolic Acid in Burns: By WILLIAM PIRRIE, F. R. S. E., Professer of Surgery in the University of Aberdeen.

HAVING perused in the columns of the lancet Professor Lister's original communications on the use of carbolic acid; having also, on the 7th of August, at the British Medical Association in Dublin, heard him read his paper on the advantages resulting from its employment in various surgical affections; and having, on my arrival at the Aberdeen Hospital on the following Sunday morning, been called to an extensive burn, just admitted,—it occured to me that carbolic acid might be found as useful in burns as it has proved to have been in other cases.

The patient, Ann G——, a thin delicate-looking girl, eleven years of age, about thirty minutes before admission into the hospital, while sitting before a fire without any dress except a thin chemise, which extended as far up as her shoulders, got a quantity of hot water spilt over the upper part of her body. The whole of the left side of the face and neck, and also the whole of the back and left side of the body, as far down as the iliac crest,

together with the left arm, were of a deep-red color. On many parts, especially about the face, neck, and shoulder, there were innumerable small vesicles (other parts were free from vesicles); and on the arm there were two bullæ, one about the size of a penny, the other a little larger. The burn was thus, evidently, partly of the first and partly of the second degree. The patient was affected with shivering; she complained of excessive pain; the pulse was extremely feeble, rapid, and irregular; and she was troubled with vomiting, which continued for two days. Two folds of surgeon's lint, dipped in a liniment of one part of carbolic acid to six parts of olive oil, were closely applied to the whole of the scalded surface, a double layer of tinfoil was placed above the lint, and the whole secured by means of a bandage. The air was thus completely excluded; and in ten minutes the patient, much to my surprise, stated that she was free from pain. On the second day after the accident the skin was greatly improved, and the bullæ seemed withering away. On the twelfth day the skin was everywhere perfectly healed, the cuticle having been thrown off; and, although the case was watched with the utmost care, not a single drop of pus was discovered.

The sudden and perfect subsidence of pain, the withering of the bullæ, the complete healing of such an extent of scalded surface without the slightest suppuration, in a patient of feeble constitution and greatly depressed by shock, appear to me to show that carbolic acid is well deserving of trial in burns of the first and second degree. I having seen some scalds of less extent prove fatal, and I have seen many not so unpromising at first end in suppuration and ulceration of skin, and require months to heal.

For making clear the state of parts in the first and second degrees of burns, I have been in the habit of stating to our students that they are precisely the same as those which usually result from the application of a blister; the inflamed part, without separation of the cuticle, resembling the first, and the part covered by vesicles and bullæ resembling the second degree of burn. This resemblance of the states of parts in blistered surfaces to those in the first and second degrees of burns suggested to me the desirableness of trying the effect of dressing a blistered surface with the above-mentioned liniment of carbolic acid and olive oil. This was done in the following case, which was carefully watched and recorded by Mr. Nicoll, one of the most talented of our students, who at the time was doing duty for our house-surgeon.

Helen W——, aged twenty-seven, was admitted under my care on the 27th of August, in consequence of an injury to her right hip-joint, caused by a heavy sack of meal having fallen upon her from a great height. Some sub-acute inflammatory action took place in the joint; and, after other treatment, a blister of the size of the hand was applied, on the 4th of September, to the outside of the hip, and allowed to remain for seven hours till vesication

to a considerable extent was produced, when it was removed; the sensation of the patient and the condition of parts being precisely the same as in burns of the first and second degree. The blistered part was dressed in every respect as in the preceding case of burn, and in fifteen minutes the pain entirely ceased. On the morning of the 5th of September the blistered surface and bullæ presented the same appearance as on the removal of the blister; on the evening of the same day the smaller bullæ had begun to disappear. On the evening of the 6th the smaller bullæ were gone, and the larger greatly diminished; and on the evening of the 8th of September the parts were perfectly healed, no suppuration having taken place.

In both cases carbolic acid seemed to accelerate the subsidence of local symptoms, to procure rapid and perfect relief from pain, and to promote healing without suppuration. If in other cases of the same degrees of burn carbolic acid should be equally useful, it would be a great blessing in the treatment of these dangerous and painful injuries.

Although water may answer for diluting carbolid acid, when used for some purposes, oil must be preferable in cases of burns. *Lancet.*

Ligature of the Lingual Arteries.

M. DEMARQUAY, the distinguished surgeon of the Maison Municipale, has recently presented to the Academy of Medicine of Paris an interesting communication on the subject of ligature of the lingual artery. After having given the history of twelve cases, in eight of which he operated himself, the other four having been collected from various sources, the author comes to the conclusion that ligature of the lingual arteries is not a difficult proceeding, and that the occasion for the performance of it is by no means of rare occurrence. Ligature of the arteries of the tongue has often been necessary in order to arrest hæmorrhage, and the observation of this fact suggested to M. Demarquay the advisability of applying the ligature in the removal of large and deeply-seated tumors of the tongue. The results of his operations have borne out his view. Demarquay has, however, carried his experiments further, and has used the operation for other purposes than that of merely arresting hæmorrhage. And herein consists the chief interest of his memoir. The ligature of both arteries of the tongue has been attempted with the view of bringing on atrophy of cancerous tumors of the organ, and, as a consequence, of prolonging the life of the patients. This experiment has been crowned with success, and in all the cases (amounting to three) the object was completely attained; while the sequelæ

of the operation were of a most simple kind, and caused no inconvenience save temporary dysphagia, due to the proximity of the artery to the pharynx. In every case the wound was said to have healed easily and rapidly.—*Lancet.*

QUARTERLY RECORD OF PRACTICAL MEDICINE.

COLLATED BY J. DICKSON BRUNS, M. D., PROF. PHYSIOLOGY AND PATHOLOGY, NEW ORLEANS SCHOOL OF MEDICINE.

On some Fatal Cases of Rheumatic Fever, accompanied by a very high Temperature of the Body, namely, 110° *and* 111° *Fahr:* By SIDNEY RINGER, M. D., Physician to University College Hospital; Professor of Materia Medica and Therapeutics at University College.

THESE cases are of interest and importance, from the sudden occurrence in the body of the very unusual temperature of 110° and 111° Fahr., while the symptoms, at the time the temperature was thus preternaturally high, were peculiar, and, as far as I know, have not been noticed in the disease.

The patients of whom we are speaking at first progressed favorably, and, till the day of their death, there was no reason to be apprehensive of the issue of the disease. As is usual with rheumatism, by rest and treatment the pain in the joints grew less, and there was a notable improvement in the patient in other respects; indeed, one of them was apparently cured, and had received her discharge from hospital for the following day. But while thus favorably progressing, there suddenly arose most serious and formidable symptoms, which indicated most profound alteration in the functions of the body, and death speedily followed the appearance of these symptoms.

This new phase in the disease differed in the manner of its invasion in the several patients. In one case it began with violent delirium which required to be restrained; in the second the delirium was less marked; while in the two remaining cases none was observed. The delirium, where it occurred, speedily grew less, and was replaced by heaviness and drowsiness, accompanied by a low muttering. At first they could be awoke and made to obey such directions as were given them, but the stupor soon grew deeper, and they became so profoundly insensible as to be insensible to pain; they could not be roused, nor made to give any signs of consciousness. In two of the cases, delirium, as we have said, was absent, and stupor was the first circumstance to attract attention and to excite apprehension. This, as in the former cases, rapidly deepened into profound unconsciousness. While in this state of stupor their breathing was at first quick and

superficial, but as the insensibility grew deeper it became slow, and was accompanied by stertor, and from the mucus which accumulated in their throats a constant rattling was caused by the air as it passed to and from the lungs. Soon their face and body assumed a livid hue, probably caused by the hindrance offered by the mucus in the trachea and bronchi to the free flow of air into the lungs. The breathing towards the end of life gradually grew slower, and at last ceased. They appeared to die asphyxiated by paralysis of the respiratory muscles, hastened by the obstruction occasioned by the mucus in their throats. During the chief part of the time this condition continued, the pulse beat full and strong, and was even bounding, and the heart, in those cases in which attention was paid to it, throbbed violently. The pupils were of medium size, and equal. It has been stated that in these cases, till within a short time of their death, there was no reason to fear a fatal issue. The time these serious symptoms continued before death put an end to them, varied.

In one case the patient was seen sitting up in bed at 5 P. M., and at this time was apparently well. She had completely recovered for several days from her attack of rheumatism, and had received the order of her discharge from the hospital for the following day. In half an hour from this time she was found by the nurse to be unconscious, and when seen by me soon after she was in a profound stupor. She died a little after 7 P. M. The temperature of this patient was noted several times; it reached 110° Fahr. It is but fair to say this case is given from memory; of the remaining cases we have full notes of their condition from the time of their admission to their death. Blake, at 7 A. M. on the morning of his death, took a hearty breakfast; at 8 A. M. the nurse in charge observed he wandered a little; at 8.30 the delirium was furious; soon he became unconscious and died. Death in this case occurred in one hour and a quarter from the commencement of these serious symptoms.

Ellen Boxall, aged 20, was admitted into University College Hospital on May 29, 1862, under the care of Dr. Reynolds. For three weeks before her admission she had suffered from slight pain in various parts of the body. From the account she gave, these pains appeared to have been seated in the muscles rather than in the joints. She continued at her work till the evening before her admission into hospital, when she was seized with severe pain in several of the joints of her body. The attack of rheumatism was a severe one, whether we measure its severity by the general symptoms, by the pain, or by the temperature of the body. She was under treatment before she died eight days, and was severely ill in all nine days. While in hospital, in many respects she improved, as the following account will show:

During the first few days she suffered most severely from pain in most of the joints of the body; but not only were those joints usually attacked by rheumatism painful, but she also complained

greatly of a pain along the collar-bone, most marked at the sterno-clavicular articulation, which was made worse by speaking, swallowing, and breathing. There were also much pain and tenderness along the lower part of the spine and in both heels. The joints were but little swollen, and but little reddened. The pains in these parts continued to be severe for a few days, but then grew less, and on the last two days of her life she complained but little, even when her limbs were moved or the joints handled.

Throughout the attack she looked very ill, and her expression was anxious and imploring. As the pain declined in severity, her expression improved, and became more natural. Her manner was on some occasions so peculiar as to lead us to think she was hysterical. At these times she called out loudly without any apparent cause, and then apologised for the disturbance she had made. On one day she said she was unable to raise her arms or to move them at all. This, we thought, was due to hysteria, as it was not owing to any pain which movement caused in her joints. She was always free from pain of the head.

At first her tongue was dry and red, her appetite bad, and her thirst great. In all these respects, however, she soon improved. The sweating, which was very profuse during the first days of her residence in hospital, soon lessened, and on the last day of her life had nearly ceased. By physical examination, her lungs were proved to be natural.

Percussion of the præcordial region led us to think there was pericardial effusion; but the post-mortem proved to us that on this point we were wrong. No endocardial murmur was heard at any time; but on the first day of her admission, friction sound was heard over the lower part of the sternum, and this continued to be present at different parts of the præcordial region to the time of her death.

She was very delirious during the whole of her illness, and was especially so on the night preceding her death. With the exception of the delirium, all her symptoms grew less severe; but she was always very ill. On the morning of the day of her death, she was much worse. She was very restless, and constantly muttered. If her statement could be relied on, she was free from pain. The eyes were bright and her face flushed, and her breathing was much hurried. She continued thus during the day, and at 5 P. M. she was discovered by the nurse to be unconscious. I was sent for at 6.30 P. M., when her breathing was stertorous, and she was profoundly insensible. She died about half an hour after this time. Her temperature was always high. Thus on the first five days of her stay in hospital, it rose to 105° Fah. On the next two days, those immediately preceding her death, it marked only 104° Fahr. On the morning of death, at 9 A. M., it was 105°; at 12, 106.2°; at 3 P. M. 106°; and at 6 P. M., half an hour before her death, 109.3°.

Post-mortem.—Brain, medulla oblongata. and their membranes

quite healthy. The lungs were congested posteriorly, but were otherwise natural. Pericardium contained about three-quarters of an ounce of opalescent serosity. The membrane covering the heart was finely injected in many places, and on the base of the great vessels there were a few flakes of lymph. The valves of the right side were healthy, but a few vegetations were seen on the mitral valve at the part where they are usually met with. Aortic valves were healthy. Kidneys were rather congested. Several of the joints were opened; the synovial fringes were slightly injected; there was no excess of the fluid, neither was this altered in character. The cartilages were rather opaque and yellow. Spleen was large and firm. By microscope the liver and kidneys were proved to be healthy, but the cartilage from the joint was decidedly too granular.

M. Blake, 23 years of age. This was his first attack of rheumatism. Until the night before he died, he appeared to progress most favorably, and there was nothing in his appearance or his symptoms to excite apprehension. Most of the joints of his body were attacked; the pain and tenderness, however, were by no means great. He looked a little anxious, and his lips were a little dry, and his tongue was thickly coated with fur. He had no pain in his head or chest. He sweated most profusely, so much so that the perspiration ran down his body in big drops. the heart's dullness by percussion was natural in its bruit, and the apex beat in the fifth interspace. There was heard double friction sound over the whole heart region. This was loudest at the base. During his stay in hospital the pain in his joints grew less, and was only noticed on the movement of his limbs. His rather anxious look left him, and the intense thirst ceased, while the sweating, though always considerable, much diminished. After a few days' stay in hospital, a soft systolic murmur was heard at the apex, but nowhere else. During the night before his death he complained of feeling heavy, but he was not delirious. He drank very largely of water—indeed, he emptied three large jugs. At 7 A. M. of the morning of his death he ate a fair breakfast.

The temperature of his body daily rose to 103.4°, till two days before his death. On the evening before he died, it was 105.4°. At 8 A. M. of the day on which he died it was noticed that he wandered, but this was thought by the nurse to be "temper." At 8.30 I was sent for; he was then very delirious, he rolled violently about the bed, and required to be held down. This violence quickly passed away, and he then lay in a half unconscious state, and moaned loudly. His breathing was irregular and jerking. His eyes were wide open; the pupils were equal and of medium size. The unconsciousness soon deepened, and he could not be roused. He became very pale and rather livid. The soft parts of the chest fell in with inspiration. The lividity soon greatly increased; this was especially noticed in the skin of his chest and around the miliary vesicles, with which the surface of

the body was largely covered. His heart while in this state beat most violently. His pulse was regular in rhythm and force, and beat 186 in the minute. At 8.40 the temperature of his body was found to be 109.4°; it gradually rose, and at 9.15, the time of his death, it was 110.8°.

His urine was always free of albumen. The quantity of urine that he passed just before his death was enormous. Thus, from January 1, 9 A. M., to January 2, 6 A. M., it amounted to 4800 c. c. This contained 45.600 grammes of urea.

Post-mortem.—Brain and its membranes healthy, not even congested; lungs congested at posterior part, otherwise they were natural; the pericardium contained rather less than three ounces of deep red serosity, which contained no lymph. On the pericardium over the base of the heart, where it joined the aorta, there was seen a slight roughness from lymph. This was small in quantity, and there was none on any other part of the heart. Mitral valves were slightly incompetent; blood in heart very fluid; valves of right side were natural; some small vegetations were found on the mitral valve; aortic valves were healthy; the liver and kidneys and other organs were healthy.—*Medical Times and Gazette.*

Case of Diabetes Mellitus following Injury of the Brain: By DR. McCLINTOCK, Morris, N. Y.

I WAS called, Februaay 18, 1867, to see A. P., twenty years of age, from whom I obtained the following history: In February, 1866, while felling timber in the woods, he received a blow on the head from a falling branch. He was removed to the house, and two creditable physicians were called to attend him. They discovered a longitudinal fracture of the occipital and the parietal bones, crossing the left lambdoidal suture. The trephine was used, and a disc of bone with some spicula removed. One month later the bowels became constipated, and the flow of urine increased.

When first seen by me was much emaciated; suffered intensely from thirst: appetite voracious; skin harsh and dry; tongue clean, red, and tender; pulse forty-eight; weight one hundred and eight pounds, showing a loss of twenty-two pounds since the injury was received. He was voiding two hundred and fifty fluid ounces of limpid urine daily, sp. gr. 1028, showing sugar by all the tests. He complained of no pain in the head or elsewhere.

The bone seemed nearly replaced; a slight open wound remained, from which oozed a drop of healthy pus. He had a little cough, which he referred to the throat or larynx.

He was placed for a month on a non-saccharine diet, with morphia, ipecac, and cod-liver oil.

At the end of this time the urine was decreased one-third, sp. gr. 1024, and the thirst and distressing symptoms much mitigated. Tinct. nux vom. (gtt. 45 daily) was soon added. At the end of the next month, sp. gr. had fallen to 1019, while the quantity was reduced to ninety-six fluid ounces. Bowels still very sluggish; other symptoms much relieved; strength increased, but weight one hundred and five pounds. Treatment continued, with steam bath daily.

In August last, the cough increased with some expectoration, and, on examination, the lungs gave unequivocal evidence of tubercle, extensively diffused. From this time the course was downward. Emaciation increased with harassing cough, œdema of extremities, and death occurred October 1st, eight months from the time I saw him, and nineteen from date of injury.—*Medical Record.*

Iodine Inhalation in the Treatment of Diphtheria: By J. Waring-Curran, L. K. Q. C. P. I., etc.

The amount of interest created by the appearance of my hurriedly written and incomplete paper published in the Lancet of Sept. 21st, and the inconceivable number of letters received by me relative to it from members of the profession throughout the United Kingdom, rendering it impossible that I could reply to each, individually, as fully as I am in most instances requested, and as satisfactorily as I would myself desire, suggest the supply of another communication in order to convey the information so generally demanded; and, by the selection and history of three of the cases treated, to establish beyond doubt the importance of the remedial agent advocated in arresting the progress of diphtherite membrane in its development, the robbing the disease of its malignancy, and subduing a mortality hitherto so appalling. Having witnessed the progress of three cases the results of which were very unsatisfactory, considering that every means was had recourse to in order to stay the virulence of the disease, and every method of treatment adopted to afford relief to the distressing symptoms manifested, I was induced to try the effect of iodine vapor in future cases, having some time previously experimented upon, and had the pleasure of observing, the beneficial effect it produced in destroying the morbid products thrown out in cases of "pip" among chickens. In none of the three fatal cases alluded to in my paper would (as has since been suggested to me) the operation of tracheotomy been advisable, owing to the false membrane having extended to the bronchi; its performance could only have hastened death, and have reflected little credit

on the operator. Nor would "local depletion," as others recommend, "in order to diminish the inflammatory symptoms," have been of much greater efficacy, because of its weakening influence generally, and especially in predisposing the patient to the repetition of fresh exudation.

The formula which I employed for inhalation purpose is the same as that formerly used by Sir Charles Scudamore in pulmonary phthisis—viz: Iodine, iodide of potassium, of each four grains; alcohol, four drachms; water, four ounces. Of this, for each inhalation, commencing, I take a drachm; add to it a pint of vinegar infused with a handful of dried garden sage, placed in a common inhaling jar, steadily increasing the quantity of iodine solution until I arrive at half an ounce each inhalation. The circumstances of the case, the age and strength of the patient, and the severity or mildness of the attack, guide me with regard to the number of inhalation, and the time occupied by each. For an average case, occurring in a healthy patient, I would say twelve inhalations at least per diem, with eight to twelve minutes (an interval allowed to rest) for each. The loss of valuable time in country practice, occasionally, will not permit the delay of sending and waiting for an apparatus; accordingly not unfrequently I have been compelled to make my inhalation in the following manner:—Having boiled the vinegar and sage, place it in a teapot with a long spout, and when the patient is prepared to inhale, add the iodine, cover the lid of the vessel with a cloth, keep up the temperature by a spirit-lamp placed underneath, and holding the vessel by the handle, allow the patient to inhale through the spout. Laryngeal irritation is in a great measure prevented by the small quantity at first used, through the patient becoming gradually accustomed to it—*Lancet.*

Two Cases of Locomotor Ataxy Treated with Nitrate of Silver: By C. A. Hingston, M. D., B. Sc. Lond., Physician to the Plymouth Public Dispensary.

A sparely nourished, very intelligent, old-looking man, aged forty-four, residing in Plymouth, became a dispensary patient in January, 1866. He was quite blind and confined to his bed, and gave the following account of himself:—About four years ago, he first noticed a weakness of his sight, which gradually increased, until it disappeared first in the right eye and then in the left. His eyes were at the time examined with the aid of the ophthalmoscope, and he was told that the optic nerves were excavated, but without any other morbid condition. About eighteen months ago he began to suffer from shooting pains through his limbs and body, followed by slowly increasing weakness of the lower ex-

tremities, until recently he has been compelled wholly to keep to his bed.

The following were the symptoms observed:—His skin, pulse, tongue, bowels, and urine were apparently natural. He complained of constant pains of a shooting or darting character through the limbs and body; these pains were of equal severity during the day and night, and such as almost entirely to prevent sleep. There was almost complete loss of sensation of touch in the feet and legs, though temperature was well preserved. The muscular power of both limbs were very considerable, and he was able powerfully to resist flexion and extension, so much so as to render the production of those movements impossible without his consent.

On attempting to make him walk, the loss of co-ordination of movement was very marked; his legs flew about in all directions, and unless supported, he fell. He stated that the ground felt as if composed of round balls.

The case had been considered as one of paraplegia with rheumatism, and the ordinary remedies for that complaint had been administered without relief to the pain. Nitrate of silver was now given in quarter-grain doses three times daily, with the effect of producing immediate and complete cessation of pain. At the end of six weeks the remedy was left off, for fear of producing discoloration of the skin; and not only was he quite free from pain, but his power of walking had in some measure increased. almost immediately, however, after leaving off the silver, the pain returned as severely as ever; and after a fortnight's interval, at his earnest request, the medicine was recommenced, with again the effect of immediately curing the pain; and during the second six weeks he continued the treatment, he had not an hour's pain, though there was no further improvement in his power of walking. On once more stopping the silver, the pain again returned, though in a much mitigated form, so much so as to be quite bearable, and has not returned since with such severity as to require a renewal of treatment. When seen a few days since, he stated that the only time during his illness in which he had been quite free from pain was whilst taking the silver pills, and that though no essential improvement had taken place, yet the disease, which was previously steadily advancing, has since the commencement of treatment remained stationary.

The second case occurred in the wife of a laborer, age thirty-nine, also residing in Plymouth. She came under treatment in June of last year, when the disease was in a much earlier stage than in the last instance. She stated that for the last two months she had been losing her power of vision, and was unable to see to read small print, or to do fine work. Soon afterwards she began to suffer from severe darting pains through her ankles and legs, not extending to the thighs. The pains were worse during the day than during the night, and were more severe in the right leg than the left; there was no tenderness to the touch; on the con-

trary, sensation was decidedly inpaired in both legs, and she was unable to distinguish the number of fingers which touched her foot, even when they were placed very far apart from one another. She had been treated with alkalies and iodide of potassiun, and all the acknowledged remedies for rheumatism, without effect. The peculiar character and position of the pain, darting as it did through the calves of the legs, and not in the bones or joints, led to a suspicion of the commencement of ataxia, which was confirmed by the history of impaired vision. Nitrate of silver was at once administered, with the result of immediately curing the pain. After taking the pills for three weeks, she was well enough to leave off medicine; and though the pain slightly returned, it was not sufficient to inconvenience her, and her sight has not further deteriorated.

These cases are recorded as confirmatory of the conclusions which have been arrived at by other observers of the extreme value of nitrate of silver in the treatment of ataxia, not only in relieving the pains, by far the most harassing of all the symptoms, but also in apparently arresting the nervous changes, and maintaining the disease *in statu quo.—Medical Times and Gazette.*

Case of so-called Cerebro-Spinal Typhus: By JAMES J. TRAYER, M. B. T. C. D., Medical Officer of the Bagnalstown Dispensary, etc., etc.

HAVING met and treated in hospital a series of seven cases of the so-called cerebro-spinal typhus, I desire to lay before your readers a brief account of their peculiar features, and of their treatment, which, besides the interest attached to its novelty, seems to me deserving of consideration from the successful issue obtained under it in a large proportion of cases absolutely hopeless, considered in the light of my previous experience of fever—and this, notwithstanding my more than sixteen years of office as sole medical attendant to the hospital of this (a peculiarly fever-stricken) district.

Late in the afternoon of February 20, 1866, A. M., a boy aged 12, was brought into hospital, presenting symptoms so peculiar and severe that the nurse sent to request my immediate attendance. I found a poor object in human form, alive, 'tis true, but more like a putrefying though animated corpse than anything I had yet seen. His whole surface was covered with black purpuric patches, varying in size from ordinary petechia to blotches full two inches and a half in diameter. Sunk into a profound stupor, he lay huddled together with head drawn back and spinal column deeply arched, his whole surface so markedly hyperæs-

thetic that, by piteous though inarticulate cries, he evinced his intolerance of the lightest touch, endeavoring, by covering his face with the bedclothes, to escape even the contact of the cool air. He could not swallow, and was pulseless. It is scarcely necessary to add that he died soon after midnight. Beyond having my attention vividly attracted to the form of fever, which under the sensation title of "black death," was exciting a good deal of interest, I learned little from this case. It may be well to mention here some particulars of this lad's previous history, and of the house whence he and the two following cases (his sister and brother) came into the hospital. On February 10, this lad had walked fourteen Irish miles, and getting his clothes soaked with wet had allowed them to dry on him. Returning home on the 11th, complained of headache on the 13th, was decidedly ill on the 14th, and took to bed, and, going from bad to worse, was not brought into hospital till the appearance of the large black spots alarmed his parents into doing so. The house is a long one-storied thatched cabin facing south-west, clay-floored, without any possible means of thorough ventilation, a grove of trees overhanging each end of it. Though situate on a light gravelly soil with good drainage, and isolated, it has, by common repute, a bad sanitary character.

On March 23, B. M., sister to the last, aged 3 years, came into hospital, stated to have been two or three days ill. This child's state at once arrested my full attention. She lay with her head drawn back on the pillow so as to direct her face nearly towards the headboard, the sterno cleido-mastoids standing out like wire ropes hard and tense (showing how tensely the proper extensors must be contracted), the whole back curved into a deep arch. So excessively sensitive was her whole surface that, though stupidly lethargic and regardless of sounds, the slightest movement, the lightest touch elicited pain-expressing cries; skin not so hot nor pulse so fast as usual in fever; eyes dull and lustreless; face and extremities very congested, of a dull red and purplish color; no petechiæ. She could swallow, but evidently would rather be allowed to die than asked to perform so distressing an act. I ordered her hair to be cut, and the vertex and nape of the neck to be blistered, and with a hopeless prognosis desired the nurse to give her milk as long as she could take it. Some hours subsequently, finding her still alive, I stood, and looking at her in a desponding mood, reasoned thus with myself:—Here is a train of symptoms due to great irritation of the medulla spinalis, if not to inflammation of its substance or membranes. Some cases of epilepsy (one such then was, and is still at this date, October 15, with most satisfactory results under treatment), which seems to depend on irritation of this great nervous centre, are most successfully treated by administering the bromides, whose power of diminishing the natural as well as the diseased sensibility of parts deriving their nerve supply from it, is well known and made use

of in the practice of laryngoscopy. Why not give this hopeless case the benefit of an experiment? I at once acted on this happy thought, begotten of an earnest desire to cheat death of a victim all but within his icy grasp. I put her on the use of five-grain doses of the bromide as nearly every six hours as it might be possible to get them down. Within a reasonable time from the commencement of this treatment, the hyperæsthesia began to diminish, the rigid muscles to relax. The disease succumbed, art triumphed, and my little patient left hospital cured on April 24, and some weeks subsequent I saw her at her home well and running about.—*Medical Times and Gazette.*

Disburbance of Nervous Balance in Disease.

We might linger long on these disturbances of nervous power, as they are exhibited at the bedside, but I must confine myself on this occasion to one or two further notes, and these general.

1. I would point out that in diagnosis of the seat of injury or disease in cases of disturbed balance, the prominent or presenting symptoms should not be taken as of necessity indicating primary disease of the centre through which the symptoms are demonstrated, but sometimes of a centre which may be remote—that is to say, a balancing centre. For example, involuntary convulsive movements, apparently spinal, and compatible with the hypothesis of increment of force in the cord, may, in fact, be due to mere decrement of controlling force in the cerebrum, as in convulsion from pressure on the cerebrum, from deficient cerebral organization, or from cerebral degeneration; or symptoms of deficient volitional power, apparently cerebral, and which are compatible with the hypothesis of decrement of force in the cerebrum, may be due to decrement of force in the spinal cord. Thus in my former lecture I explained that, on suddenly removing force from the cord by extreme cold, symptoms even of stupor were made manifest. In dealing with diseases of the nervous centres and in the careful diagnosis of these diseases, I know of no point of practice that is more important than this relation of balance between one centre and another, and the relative increment of force in one centre by the loss in another centre that sustains the balance during periods of healthy action.

2. If we forget this relative balance of power and destruction of balance by failure of one part, we may mistake often active symptoms arising from passivity of one organ and relative activity of another for actual increased activity of an organ that is quite natural. I believe this mistake is frequently made, and that it leads to bad result in practice—leads to the adoption of depressing treatment when the body should be most carefully sustained.

3. In some extreme cases, where for long periods of time the nervous centres have been exposed to the continude action of a destroying agency—the agency of alcohol, for example—groups of centres of power, centres which balance each other, give way altogether, or so nearly together that disturbance of balance of function is seen but for a short interval, or is not seen at all. Cases of general paralysis and dementia, cases which so largely occupy our asylums for the insane, are of this class.

Lastly, on this question of balance, I would point out what seems to me the fact, that the balance between two centres may suddenly be broken in moments of quick vehemency of action of one centre. The madness of rage, in which the cerebral reasoning centres become temporarily paralyzed by over-action, leaving the propulsive cerebellum to free and uncontrolled impulse is a case of this kind in its temporary form and development. But the event may be more than temporary; the brief arrest of function, especially if it has been often repeated, will, in some instances, be attended with physical change of structure and loss of molecular capacity for the reception of force; and then, the balance of centre permanently broken, the phenomena which we call mental ceases to be orderly; predominating impulses, or resolves, not, perchance, before known, because held previously in check, prevail; then the mind is unhinged, as the common saying expressively describes the pure physical truth; and then it is often ignorantly wondered how the sufferer, who once showed none of the tendencies he now shows, could have suppressed such tendencies so long or so artfully.

I believe that the physical meaning of morbid impulses is, in every case, a broken balance of nervous centre; the sudden exhibition of uncontrolled force of an organ previously held in even action by another centre; a centre up to a given moment active, at a given moment dead.

The nervous organism, in short, may die in parts, and one centre or more may be dead to the reception of force, while the rest of the body, volitional and vegetative, lives, in mental constitution a changed body. In old age, this progrsssive change naturally envelopes all the volitional centres, which truly die, while the vegetative remain. And conversely, sometime in the heyday of youth we see the mere vegetative centres die only, and thereupon—so dependent is the higher upon the lower life—all the centres of thought and volition share in the catastrophe; sudden and general silence and inertia communicating to the looker on the phenomena which he summaries in one word—*death—From Dr. B. Richardson's Lectures on Experimental and Practical Medicine, Times and Gazette, London, August 31st.*

The Inoculation of Tubercle.

THE London Lancet gives the following summary of the important labors of the Commission appointed by the Academy of Medicine to investigate the alleged discoveries of Villemin in this sphere:

This Commission was composed of MM. Louis, Grisolle, Bouley and Colin. M. Colin read the report in the name of the Commission, and included in it an account of several experiments by the Commission, which yielded results essentially similar to those obtained by M. Villemin. At the very outset of the report there occur words which indicate the opinion of the members of this Commission on the main conclusions of M. Villemin. They give him credit for throwing light by physiological experiment on medicine, and say that the two memoirs presented by him to the Academy, on the 5th of December, 1865, and on the 30th of November last, reveal to us a fact of the highest interest—the transmission of phthisis by the inoculation of tuberculous matter. Their endorsement of M. Villemin's main conclusions is all the more effective from the fact that they do not hesitate to say that in one or two minor points he has come to hasty or incorrect conclusions. Two of these are in particular pointed out. First, they aver that M. Villemin was inexact in believing that sheep were insusceptible of tuberculosis, and that he too quickly concluded that the tubercles in the cow and those in man were of the same nature. M. Colin, as we have said, gives in the report an account of the various experiments with the inoculation of tubercle by the Commission. Some of these failed; but the most of them succeeded perfectly. The failures were suggestive to M. Colin. He procured from M. Villemin a specimen of the tuberculous matter used by him. This included fragments of various kinds of tuberculous matter, old and recent, transparent and grey, firm and softened. He reduced all into a homogeneous pulp, and inserted portions of this into four rabbits, at the base of the ear. Only one of these animals became affected with tuberculosis. M. Colin accounts for the failures principally by the fact, that in examining two of the animals he found that the tuberculous matter inserted had become encysted at the seat of the wound, and so had become protected from absorption. In his subsequent experiments he was careful to go deeper, and to spread the matter over a larger surface, and so he obtained success. These later experiments are valuable, not only as additional to M. Villemin's, but as made with every distinct form of tubercle used separately. Fine miliary tubercle, softened cascous matter, hard tubercle taken from an ox affected with the calcareous form of phthisis, yellowish tubercle in course of the so-called regressive metamorphosis, and lastly, slices of a tumor full of strongles taken from a sheep affected with verminous phthisis, were all used, and all with similar results. We shall give as a specimen M. Colin's account

of his first experiment. It illustrates not only the phthisical result obtained, but the effects produced in nearly all M. Colin's experiments upon the lymphatic vessels and glands, and upon which he founds important conclusions:

"A rabbit was inoculated with fine miliary granulations taken from a cow. He died, with all the appearances of phthisis, after two months and some days. The lungs were strewed with tubercles; the liver, the spleen, and one of the kidneys presented tubercles; the glands of the neck and of the ear were swollen. Finally, from the point where inoculation had been effected there proceeded white tracks, like farcinous cords [des trainées blanches, semblable à des cordes farcineuses]."

The glandular results are thus described in the second experiment. The rabbit had become tuberculized after the inoculation with softened cascous tubercular matter.

"The inguinal glands, the axillary, the prepectoral on the side of inoculation, were hypertrophied and penetrated with matter of caseous aspect."

The principal conclusion to which the various experiments led, is thus stated in the report: "Thus in all the degrees of its evolution, and in all its forms, tubercle comports itself in an identical manner."

An interesting question is, the extent to which the contagious or inoculable character of tubercle is possessed by it exclusively. The experiments of the Commission show that a great variety of substances, under the generic name of "tubercle," have the quality of reproducing themselves in the central organs; and they go to show that all inflammatory products have a similar tendency, including pus. The exact relation of tubercle to inflammatory deposits is yet a moot point among pathologists. All that can be said here is, that experiment shows that there is a considerable similarity between the deportment of tubercle and other inflammatory products when inoculated. According to M. Colin, the other inflammatory products act in the same direction, but not to the same extent as the grey granulation. "Les produits morbides présentés comme des resultats d'inflammation ou de regression, n'agissent pourtant pas autant que la granulation grise."—*Medical and Surgical Reporter.*

Hyposulphites in Malarial Disease.

Dr. S. E. Hampton, in the Cincinnati Lancet and Observer, makes some observations on the use of these agents in miasmatic diseases.

We are convinced that the hyposulphite of soda possesses the property of rendering the malarious poison inoperative, either by

destroying the poison or the susceptibility of the system to its influences. In support of this belief, we submit the following report:

Case 1. W. M. W., æt. 28. Attacked with intermittent fever while in the army in 1864. Suffered frequent relapses until cold weather. Had chills again for six weeks in the fall of 1865; took large and frequent doses of quinia. First seen April 18, 1866; greatly emaciated; marked enlargement of spleen; tongue coated slightly; bowels regular; appetite poor. Ordered sodæ hyposulphis ℥ss., aq. minth. pip., syr. tolutan aa f.℥j., m. Sig. ℥j. ter hor.

April 20. Chill came on usual time, but not near so severe. Fever moderated, and third stage hastened. April 22. Chill but a few moments duration. Fever slight. April 24th, escaped the paroxysm entirely. From this time convalescence was rapid. The remedy was repeated in xx gr. doses four times every seventh day for four weeks, since which he has enjoyed perfect health, the splenic enlargement gradually disappearing.

Case 2. Mrs. W., æt. 26, had chills last fall, and took a great deal of quinia. First seen April 19, 1866; had suffered but slightly, having had but four paroxysms. The soda was prescribed in xx gr. doses, which arrested the disease in two days. No relapse occurred.

As an evidence of the efficacy of the soda, I will state that in sixty-six cases, in which I have used the remedy, it has failed in but one (42d). I am so thoroughly convinced of the anti-periodic properties of the remedy that I seldom prescribe any other.—*Medical and Surgical Reporter.*

Raw Flesh and Brandy in the Treatment of Phthisis.

1. The exhibition of raw beef and mutton, and of alcohol in doses varying according to circumstances, arrests the progress of pulmonary phthisis and other consumptive diseases. Under the influence of this mode of treatment, strength is restored, the countenance recovers its animation, appetite returns, and the patient gains in flesh and weight. In a month, or even in three weeks, in several cases, the body gained four, six, eight, and even as much as twelve pounds. 2. This general improvement of the system, aided by appropriate treatment of the leading symptoms, checks the hectic fever, diarrhœa, and night sweats. 3. When these complications have yielded, amendment of the local condition of the lungs or other diseased organs sets in, and the advance of cicatrization can be ascertained by percussion and auscultation. 4. The efficacy of the treatment is not equal in all stages of the disease. In the third stage, the improvement

in general is confined to a prolongation of life, the inevitable issue being merely postponed. In the second stage only can the treatment be said to be curative, provided all the necessary precautions are strictly attended to. Of all atrophic diseases in which the treatment is applicable, that in which the greatest measure of benefit is obtainable is pulmonary tuberculosis, in all its stages. It is also highly beneficial in every form of anæmia, whether resulting from hæmorrhage or supermatorrhœa; at the conclusion of acute affections, especially typhus and typhoid fevers, in the last stage of leucæmia, albuminuria, and diabetes; it is also frequently successful in pyæmia, paludal cachexia, chronic nervous fever, and in general in all protracted morbid conditions in which repair is obviously unequal to the expenditure of the system.—*Jour. Pract. Med. and Surgery.—Medical and Surgical Reporter.*

Treatment of Incontinence of Urine: By Abbots Smith, M. D., M. R. C. P., etc.

Dr. Smith states in his interesting brochure *on Diabetes; and on Enuresis arising from Irritability, Weakness, or Inflammation of the Bladder and Urinary Organs*, that it should not be overlooked that a cure of enuresis will be greatly facilitated by certain moral and dietetic measures. For instance, any bad habit of not getting out of bed for the purpose of emptying the bladder at proper intervals should be counteracted. The quantity of fluids taken by the patient should be moderately restricted, particularly in the evening. This constitutes the real secret of the occasional success of the plan of treatment termed "Dietta Sicca," resorted to by some practitioners for the purpose of diminishing the excessive secretion. It consists in giving thick soups, bread, roast, or baked meat, fish without sauce, and dried fruits; the amount of liquid nourishment is gradually lessened, and the patient's thirst is assuaged, by the use of baths. This plan, however, is useless when enuresis depends on actual disease of the bladder or kidneys. The usual diet should be selected chiefly from articles of food which, although nutritious, are unstimulating to the kidneys or to the bladder, and which are not difficult to digest. Of these, none is so well adapted as milk. Amongst the most objectionable articles of diet may be enumerated all liquids which are taken when hot, especially tea, spices, pastry, salted and preserved meats, and most compound dishes. The general remedial measures of sea-bathing, change of air, and exercise, will prove the most useful in atonic, strumous cases; but the patient should be cautioned with respect to riding on horseback, which is productive of the disorder in many persons of a delicate organization,

and will, when excessively indulged in, frequently render the affection serious, and almost intractable to medical treatment.—*Half-Yearly Abstract.—Chicago Medical Examiner.*

Chlorocarbon a Substitute for Chloroform.

PROFESSOR Simpson (*Medical Times and Gazette*) has found the chloride of carbon, or chlorocarbon, to be nearly allied to chloroform in its physiological action. It is slower to act and its effects continue longer. It depresses the heart's force in a dangerous degree when used as a general anæsthetic. For topical use, however, it seems preferable. The vapor has been injected into the vagina and rectum, in painful affections of those and the neighboring organs, with the best results. Ten or twenty drops injected subcutaneosly were efficacious in relieving local pain, without producing the distressing nausea so often consequent on the use of morphia. The agent is but little known, and is not yet to be found in the shops.—*Humboldt Medical Archives.*

QUARTERLY REVIEW OF OBSTETRICAL SCIENCE,

COLLATED BY JOSEPH HOLT, M. D.

Ovariotomy.

[THE following is an extract from the address of Mr. T. Spencer Wells to the medical of men New York; delivered in the Lecture Room of the Bellevue Hospital Medical College, September 18th, 1867.]

The doctor was surprised to find that the same prejudice against ovariotomy, as an operation attended with great mortality, existed in this country as well as his own. He found on conversing with Drs. Peaslee and Atlee, that they had to encounter about the same opposition as he did. With regard to mortality, he would say, that according to his own experience, it was about 28 or 29 per cent. He had operated on 228 cases. In the first hundred, the per cent. of deaths was 34; in the second hundred, 28 died; and in the third hundred, about 24 per cent. This mortality is by no means unusual in ordinary surgical operations. If the cases could be selected, the mortality would be far smaller; but very frequently patients insist upon the operation when there is only a very slight hope for a successful result. In cases where

the prospects of success were slight, and yet the patient wished for an operation, he had been in the habit of allowing the patient to decide. These "forlorn hopes," of course, swell the mortality, but under certain given common-sense principles, the operation is a comparatively safe one. In regard to the mode of operating, he would at first say, that there was something in preparing the patient for the operation. She should, if possible, be sent to the country, where plenty of fresh air and good food could be had. If kept in the city, everything around her should be as clean and comfortable as possible. Two days before the operation, the bowels should be well cleaned out, and again on the morning of the operation, by an injection. A rubber sheet, fastened around the patient by adhesive plaster, with an oval opening in front, through which the necessary incisions can be made, will conduce much to the comfort of the patient by preventing the fluids of the cyst and abdominal cavity from wetting the clothes. Some operators advise a half-sitting position. There is no advantage arising from this position, and there is some advantage in the recumbent position. It is, therefore, to be preferred. With regard to the incisions, they have been made of various lengths. The earlier operator usually made them very long, so that the whole abdomen might be rapidly exposed. Later operators have used smaller incisions, generally just large enough to allow of the cyst being emptied of its contents, and then drawn out.

It is difficult in the present state of ovariotomy to make conclusions as to the difference in mortality resulting from these two methods of procedure. In my own practice, I have found that an incision of five or six inches is usually long enough. If we are obliged to exceed this *limit*, and go beyond the navel, the mortality seems to be increased. As a rule, the incision should be in the linea alba. Other incisions in an oblique and transverse direction have been recommended and have their advocates, but we have come to the conclusion that the incision in the linea alba is the best method for the removal of either or both ovaries. In getting at the cyst, we usually have to go through a little subperitoneal fat, after which the cyst can generally be found without difficulty. If loose and free, it will not even be necessary to introduce the hand; but if there are adhesions to the abdominal walls, they will have to be gently separated by the hand. Abdominal adhesions do not add very materially to the risks of the operation. The adhesions to the pelvis are of considerable more importance, especially where they are connected with the rectum or bladder. In emptying the cyst, the common trocar and canula of a somewhat large size may be used, but finding considerable trouble in using this, I have devised the instrument which I now show to you. In using the ordinary trocar, some fluid is very apt to escape into the peritoneal cavity, but with this instrument, the cyst can be rapidly emptied, and afterwards drawn out without any such accident. It consists of a hollow tube about three-eighths of an inch in diameter, very much in the form of a pen at

the cutting extremity. This hollow cutting tube slides into a guard, to which for the sake of convenience, a pair of sharp hooks, one on either side, is attached, with which the cyst can be seized and drawn out after being emptied. To the end of this is attached a long elastic tube by which the fluid may be led into any convenient receptacle.

Supposing now the sack to be removed, the question occurs what shall be done with the pedicle? There are two leading methods of treating the pedicle. One may be called the extra peritoneal, and the other the intra peritoneal. In the one the pedicle is brought out external to the wound and there retained; in the other, it is returned into the peritoneal cavity. Of these two methods, experience is decidedly in favor of the first. By whatever mode it is carried out, the result, on the whole, seems to be much better.

But there are certain cases in which the latter method is to be preferred. I think there is no doubt that when the pedicle is long enough, it is far better to carry it outside of the peritoneal cavity, and the best method to secure it there is the clamp. It is easily adjusted, and after the parts have been cut off above it, I usually apply a little perchloride or persulphate of iron, which acts both as a styptic and deodorizer. Suppose, however, you decide in a case when the pedicle is short, that it would be better to return it into the cavity. In these cases the ligature must be used. The ligature has been applied in a number of ways, and there are no very reliable statistics to tell us which way is the best, but we have come to the conclusion, that in cases where we may expect a certain amount of sthenic inflammation, that it is better to cut the ligature off short, and return the pedicle. In cases of weak constitution, it is better to bring the ligature out of the wound, so that a certain amount of drainage may be established. Better than either of these is the combination of the clamp and cauterization. The pedicle is first secured in the clamp, tightly compressed, and after being cut off, seared with the actual cautery. It is then cautiously opened, and if any vessels yet bleed, they can be secured with the ligature.

After cleansing the peritoneal cavity, we come to the closing of the external wound, which may be done by various methods. The only question of importance just here is, shall the peritoneum be included in the sutures, or not? By numerous experiments upon animals, the speaker felt satisfied that but one answer could be given to this question—the peritoneum should always be included in the sutures. The after-treatment of these cases is usually extremely simple.

In giving opium, a dose sufficient to allay the pain is generally enough. It is not often that large doses of opium are necessary; I have seen cases where no opium at all was given, and the patients did very well, making a good recovery. In giving opium, it is better to give it by the rectum, reserving the mouth for food and drink. The after progress of these cases is most encourage-

ing. In cases where only one ovary is removed, the other will be found quite sufficient for generative purposes; sometimes the disease attacks the remaining ovary, and this has been urged as an objection to the beneficial results of the operation. The same objection might be urged with equal force in those rare cases where after an eye or testicle has been removed, disease attacks the remaining organ.—*Medical and Surgical Reporter.*

"*Missed Labor:*" By T. B. CAMDEN M. D., of Weston, West Virginia.

THIS term was introduced by Dr. Oldham, he restricted it to cases "in which the full term of utero-gestation has gone by without labor pains having set in, or the expulsion of the child affected."

As such cases are very rare, and the number recorded fewer, I have had my attention more particularly called to them from the fact that I had the misfortune to have one. And at the time had never remembered reading or hearing of a case of the kind, nor have I since, except the cases spoken of below.

The first of these cases is related in Guy's Hospital reports, by Dr. Oldham, under the caption of a "Rare case of Midwifery." The narrative states that the full period of utero-gestation was completed in June, and the woman carried the child until October, three months beyond the natural period. The functions of lactation was established as soon as the usual period of gestation had expired. (She had lost a quart of blood in June.) The Dr. found the os uteri dilated sufficiently to introduce two fingers; but absolutely incapable of further dilatation, and he believes the uterus would have given way before a greater degree of dilatation could have been effected. The usual excitants were given, ergot, electricity, etc., but without avail. The Dr. removed the arm and some other portions of the child, together with the placenta and cord through the os uteri. The uterus soon after diminished in size, the Dr. predicted the escape of the contents into the abdomen by ulceration. The post-mortem confirmed his opinion. The anterior walls were found to be removed by ulceration. The soft parts of the child had been taken away by the absorbents, and little else was left but the bones.

The second case was recorded in the April number of the *American Journal of Medical Sciences*, in 1853, and is related in a letter to Prof. Meigs by Dr. Hortze. This woman, I believe, carried her child near three years. A post-mortem put the matter beyond cavil. As I have not the journal at hand, I cannot give the particular symptoms, etc.

The third case is by Dr. Wm. Johnson, of White House, N. J., February, 1855. The woman, aged thirty-six years, became *enciente* for the first time in the spring of 1852. Nothing of note occurred until December, when nine months of utero-gestation was complete. She had now pains, such as to induce her husband to call in her physician, he was called on in the evening and remained all night. The pains, however, were not severe, and wore off, *and never returned.* As in extra-uterine pregnancy, lactation was also here established at the prescribed period when utero-gestation should have been completed. She lived after this eleven months. Her health, however, soon began to give way after the abortive effort of the womb to expel the child. Dr. Johnson saw her for the first time in March. She had several turns of flooding; but the quantity of blood was not large. At this visit he found the os uteri obliterated, and the parietes of the under part of the womb thin. The tip of the finger entered the womb, and with it he touched what he thought the fœtal head. He says he employed considerable manipulation in order to increase the dilatation of the os uteri; but completely failed in the attempt. He says he might as well have attempted the dilatation of a piece of sole leather; to which alone he could compare it. It gave the same unyielding sensation. In consultation with Dr. Honeyman it was agreed to attempt the dilatation with sponge tents; secale cornatum was given for several days, all without effect, she gradually sank until fall, having lived eleven months. The post-mortem revealed a child within the womb; decomposition of the child had progressed, and the cranial bones were readily separable. The uterus fully embraced the child on every part of its surface. The head presented in the utmost favorable position for expulsion.

The fourth is by Dr. Green, of Cambridge, Ohio, and recorded in the "*Counselor*, June 30th, 1855," Columbus, O.—He was called on the night of the 25th of Feb., 1836, to see Mrs. T., aged about forty-three years, in her sixth accouchement; found her to all appearance in labor. Shortly after his arrival she vomited freely, after which her pains left her. She rested well through the night and expressed herself as well as ever.

He says: "I left her expecting to be sent for during the night, but heard nothing from her for eight or ten days, when, passing the house, called to see her, when she informed me that on the day I left, the waters came away, and she had had a slight hæmorrhage, which continued up to that time. That she had not felt the child move since her pains subdued, and she had a copious secretion of milk. I was satisfied that the child was dead, and gave as my opinion that labor would certainly take place in a short time and expel the child. But in this I was sadly mistaken, as in a few days afterwards I was requested by her husband to visit her again. I found the discharge increasing, very offensive, and her health giving way. On examination I found the os uteri about the size of a silver dollar, and as *hard and as unyielding as*

an ivory ring. I tried to force it to yield, but without success. I used ergot and friction to bring on contraction if possible, hoping that by so doing, with manipulation, I could force my hand through the ring, and remove the child, which I could easily feel; but the ergot had no effect. I stated the case to my patient and her husband, and gave them my opinion that the uterus could never be emptied by any other means than a division of this ring with the knife; to this proposition they would not consent. I tried again to force the os uteri to yield, with no better success. In fact I might as well have tried to dilate an iron ring. I then advised consultation, and Dr. Hood of Fairview, was called in. He was an old practitioner, and when he came and had a history of the case, and examined for himself, he frankly told the patient and her friends that he had never seen or read or heard of a case of the kind. I stated to him what I had done, what I tried to do and failed, what I thought should be done if the patient would submit. He agreed with me as to the nature of the case, the impossibility of forcing the os uteri by manipulation and medication; but was of opinion that nature would throw off the child by decomposition, if we would use means to sustain our patient's strength. I thought otherwise, and insisted on dividing the ring and delivering. But in the absence of any authority or precedent to sustain me, I submitted to my senior's opinion, and left the case to nature, assisted by wine, porter, quinine and nourishing diet. The case progressed gradually, her general health gave way, and in the month of July following she died, one of the most heart-rending objects I have ever witnessed.

The soft parts of the child all passed away by decomposition, leaving nothing but the dry bones, some of which I removed through the ring before death, but the larger ones could not pass.

He says: "By reporting this case I do not expect to add anything to what has already been written by others; but it is one more case, and in fact the first one in point of date of which he has any knowledge." This case lasted from February to July (five months.)

The next and fifth case occurred in my practice in July, 1863. Although the history of the case is somewhat unsatisfactory previous to my visit; yet in its result, and as regards treatment, will make but little difference. The case was that of an Irish woman, who was very ignorant, as was her husband and midwife. I first visited her July 20th, and from the midwife learned she had been in labor, as she supposed, a week; but the pains had gradually subsided, and for this strange phenomenon I was sent for. I found her weak and sallow, evidently suffering from some prostrating influence. I made an examination and found the os uteri open enough to introduce two fingers, but as hard and unyielding as an ivory ring, and inside the womb could readily feel the cranial bones, which were separated from each other by decomposition, the rough serrated edges almost cutting my fingers, evidently showing that the case had been one of some duration. The death of the child must have occurred some time before.

I tried to dilate the os by manipulating with my fingers sufficiently, to get away the loose denuded bones, but was unsuccessful. I gave ergot but with no success—day after day I tried various remedies, but it seemed as though the os was totally incapable of dilatation. She was evidently sinking rapidly. I had never before seen or read of a similar case. I asked and obtained a consultation. Dr. Roach, a very excellent young physician, was called in, and found the case as above stated, and tried pretty much the same means that had already been employed, and with as little success. In consultation I gave as my opinion that the os uteri would never yield, that she was rapidly sinking, and from the absorption of the putrid gases, she would soon die of pycmia if not relieved—and advised cutting the ring and making an opening large enough to relieve her of the putrid mass.

The doctor thought it hazardous, and as the case was a new and singular one, thought that by tonic treatment nature might relieve her by throwing it off by decomposition. I consented and used the means indicated. She gradually sank into a typhoid condition, and died in four days after my first visit.

Cases of uterine abortion, like the foregoing, are necessarily rare, and as far as I can learn, always fatal It seems when the uterine contraction does not take place, or subsides after having taken place at the full period of utero-gestation, they can never be awakened again. Why this is so we cannot certainly say, but it seems to be dependent upon the death of the child, and the paralyzing effect produced upon the nerves and muscular fibres of the womb by the putrifying child—which renders the normal expulsion of the child impossible.

Although the cases cited differ from the one that came under my observation in point of duration, yet the treatment would be the same. From the effect produced upon the mother, and the total separation of the bones of the head in this case, I am led to the conclusion that the child must have been dead some time. There was no secretion of milk, or if there was, I was not informed of it.

We now come to the all important subject, how are cases of "missed labor" to be treated? Dr. Williams, in the transactions of the Obstetrical Society of London, says, as soon as a physician's attention is called to a case of this kind, death of the child, escape of the liquor amnii, and os dilatable, to turn and deliver. In the cases stated, dilatation was impossible, and nothing but a mass of bones to turn. He then said no accoucheur would any more leave a dead fœtus than a putrid placenta in the womb. That he would advise dilatation by the tampon or incising the os. Dr. M. Green, in his case advocated dividing the ring and delivering the child, but as yet no case has been operated on, and as far as the cases have been recorded, not one has recoverd, and it is to this dark record that I wish to call the attention of the profession, and influence them in trying other means of relieving the patient, than the ones heretofore tried. And that is, in incising

the os uteri enough to relieve the woman of the putrid mass, conceiving as I do, that a clean incision, and ridding the womb of its poisonous load, would give us better hopes of recovery than to wait for nature to rid it of its contents; especially as in all recorded cases, death was the inevitable result, sooner or later, by the expectant treatment.

I am anxious to learn of any other cases that may have fallen under observation, and hope they will be reported.—*Atlanta Medical and Surgical Journal.*

Spasm of the Gravid Uterus: By C. B. SUCKLING, M. D., M. R. C. S. Eng. Senior-Surgeon Accouchenr, Queen's Hospital, Birmingham.

LATELY a patient consulted me concerning her ease, the history of which is as follows:—She was thirty-five years of age, and had had seven children, five of whom are living, the other two died in early life; all her labors had been natural, and her "gettings about" good. She was again pregnant, and had advanced as near as she could judge to the eighth month of gestation. Up to the seventh month her health had been uniformly good, but during the last week or two she had felt great uneasiness in the region of the uterus, which was more marked at night when she was in bed; it was attended by loss of appetite, depression of spirits, and great anxiety of mind, which she regarded as harbingers of impending evil. She was alarmed most by what she described as a "drawing" sensation in the abdomen, about the umbilicus, and she stated that at times there would quickly rise up a lump in it on one side, which would suddenly disappear, and rise up again on the other, and which was succeeded by a feeling of faintness, and despondency of mind. In answer to my questions she stated that she had no discharge from the vagina, no actual pain in or around the uterus, only the sense of uneasiness which made her very unhappy. There was no bearing-down effort, no impediment to the passage of the urine and fæces, but she was occasionally annoyed by an itching and irritation of the anus, which she attributed—and justly so—to piles, and which were relieved by cooling saline purgatives. Her chief cause of complaint was the intolerable uneasiness of, and drawing sensation, and the erratic tumors in, the abdomen, for the relief of which she consulted me.

The "toucher" showed the os uteri patulous to the extent of three-quarters of an inch; its lips were soft and yielding; the child's head presented, the presentation could be diagnosed; there was no abnormal condition of the uterus, no prolapse, no obliquity, nor any deviation from its normal position at the eighth month of utero-gestation. This is a case which is described by Meigs under the name of "Alternate Hardening and Contraction

of the Womb," and which he ascribes to the retentive and expulsive faculties of the uterus, which are oftentimes brought into action as the womb approaches near to its term of gestation. Another American writer on obstetrics has noticed a similar condition of the uterus more frequently occurring in primiparæ, and he speaks of it as the independent contraction of the uterus, accompanied by a bearing-down sensation so characteristic of true labor pains, but arising from the muscular irritability of the organ, and that they are to be regarded as simply preliminary to labor.

I cite this case to show that we are sometimes consulted about what may seem trifling ailments, and to urge that it is as necessary in midwifery, as it is in medicine and surgery, not to treat them with indifference and neglect; for although they are not attended with danger to the mother, they may be hazardous to the child by inducing its premature birth; yet the sensations to which they give rise, and which are inexplicable to the patient, and alarm her, causing her to regard them as the precursors of something serious, may be explained and relieved, and her perturbed state of mind tranquilized.

This condition of the uterus should not be confounded with an irritable condition of that organ, with the movements of the fœtus *in utero*, or with true labor pains; the alternate hardening and softening of the uterus at certain places, and intervals of longer or shorter duration, are sufficiently diagnostic. For this patient I prescribed bromide of potassium in ten grain doses three time a day. The first dose gave relief, and after it had been taken four or five times, a feeling of comfort succeeded that of uneasiness, and the drawing sensation in the bowels disappeared. This remedial agent I have found of great efficacy in hysteria in its various phases, in several cases of aggravated chorea, and especially in epilepsy.—*Medical Times and Gazette.*

A Case of Puerperal Convulsions Successfully Treated by Chloroform and Induction of Premature Labor: By WILLIAM HOLME, M. R. C. S., etc.

HAPPILY for the patient as well as the practitioner, convulsions during pregnancy are not of common occurrence; when they do take place, they alarm the household and friends, are attended with great danger to mother as well as child, and demand from us our most careful, prompt, yet energetic treatment. I give it as brief as possible, and without remark. I hope it may be sufficiently interesting to warrant its insertion in your pages.

April 16, 1866.—During the night I was requested to visit Mrs. P., who resided about five miles away in the country. I went, and found my patient a slender, spare, and most exeitable woman;

she was the mother of six children, and was again advanced to the seventh month of pregnancy. From the attendants I learned she had had what appeared to me to resemble a fit of hysterical excitement; it had come on suddenly without any warning beyond slight headache and irritability of temper the previous day. She was now partially recovered, and was lying in a semi-comatose state. On rousing her she became very excitable, sobbing, and tearing her hair. Pupils natural; pulse 100; bowels rather confined; tongue clean; no swelling of legs or puffiness of eyelids. Never experienced anything similar before, and has always enjoyed good health. Ordered a large assafœtida enema, a mixture of valerian, and cold applications to the head.

17th.—Was again summoned to see her, when I had an opportunity of witnessing several attacks of genuine convulsions, during which the tongue was severely bitten. I took about 8 oz. of blood from the arm, gave a couple of drops of croton oil, and administered another enema. Bowels acted freely, but convulsions, which had now become frequent, continued unabated. On examining the urine, I found it scanty, high-colored, and loaded with albumen, doubtless caused by the pressure of gravid uterus upon renal vessels. Ordered to be enveloped in wet blanket, and sudorific mixture given every two hours. Chloroform was administered during the fits, which were very much relieved, but directly it was withdrawn, they reappeared with usual severity.

18th.—About the same; chloroform steadily continued.

19th.—Fits continue, and the patient obliged to be kept more fully under the influence of chloroform; pulse quicker and more feeble; fœtal heart distinct, yet weaker; os uteri high and closed; no symptoms of labor present; urine albuminous and scanty. 10, o'clock P. M.: As she had taken little or no food since my first visit, and symptoms of exhaustion were setting in, it was evident she could not long survive unless relieved; the fœtal circulation was also failing. I determined to try to induce premature labor, and endeavor to save both mother and child. The patient being fully under the influence of chloroform, a gum elastic male catheter was introduced into the uterus, several ounces of liquor amnii escaping; catheter retained *in situ* by means of tapes, etc.

20th.—4 o'clock A. M., labor pains set in; os uteri dilating; presentation natural. At 10 o'clock A. M., delivered of a living seven months male child. Convulsions less frequent. Chloroform withdrawn, and only ordered if an attack came on.

21st.—More rational; not had any chloroform since delivery. Urine increased in quantity and less albuminous; aperient ordered.

22d.—Improving. Less albumen.

25th.—Mother and child doing well. No albumen in water-tonic mixture ordered.

May 22.—Quinine mixture given; patient discharged.

July 1, 1867.—Mother and child quite well.—*Medical Times and Gazette.*

Ovarian Fœtation ; a paper read before the Medical Society of Allegheny County, Maryland, August 6, 1867: By SAMUEL P. SMITH, President of the Society.

MRS. C. R., aged fifty-three, was married in Germany at the age of twenty-six years, and was delivered of a healthy child two years afterward. This child lived till it was nearly five years old. Two years after the birth of the first child, she suffered an abortion, and remained very delicate for many months after. As near as she could recollect, about three or four years after the abortion, she again conceived, as she and her friends generally believed, as she suffered from all the symptoms usually accompanying pregnancy, and which progressed regularly to within a short time of her expected confinement, when she was taken sick. Her midwife and physician, after carefully examining her, pronounced her pregnant and suffering severe disease (of the nature of that disease she could give no account). She described her sufferings to have been very great and of long continuance, and until she was reduced to the verge of the grave. She had severe night sweats, burning in her hands and her feet, and her life was despaired of her friends and attendants. From this condition she very gradually recovered, with all the symptoms of pregnancy having subsided.

After she had recovered sufficient strength to be able to move about, she found a large tumor or lump remaining on her right side, low down in the abdomen, which she described as continuing about the same in size, feeling and position, up to the time when I first saw her in 1865. She came to this country about 1854, and has lived in Cumberland from that time till the period of her death, June 12th, 1867. She stated that after recovering her health from this long illness, her menstruation returned and continued until a few months previous to her death; sometimes regular as to period and quantity, and anon irregular as to period and quantity.

I first visited the patient professionally on the 4th of October, 1865, and attended her then in a severe attack of bilious remittent fever, at which time I discovered the enlargement in the right iliac region, extending a few inches above the crest of the iliac bone. The tumor was firm and moveable, with no pain or soreness on pressure, and would weigh, as I supposed, three or four pounds. While examining the tumor, the patient said, "Doctor, you need not examine that lump, it is an old affection, and has nothing to do with my present sickness, and I don't want you to have anything to do with it." I thought as the patient did, and paid no further attention to it at that time.

In July, 1866, I attended her in a second attack of fever, similar to the first, but with more gastric and enteric distress. Her recovery was very slow, and she suffered from great pain and uneasiness, in the tumor, with some increase of its size. From that time she suffered more or less until early in February, 1867,

though at times she was up, moving about the house and garden. From the 10th of February, her sufferings gradually increased, and the enlargement of the abdomen became more diffuse. A few days afterward she had copious discharges of pus per anum, which continued for a fortnight, when all all the violent symptoms subsided, and she had great relief until early in May, when the swelling and enlargement returned, with erysipelatous inflammation over the tumor, followed by gangrene and sloughing of the soft parts, through which protruded the edge of a thin bone. Through this opening she passed large quantities of pus and purulent matter, as also food which had been taken but a short time before. In this condition she was seen by Dr. G. B. Fundenburg, and subsequently by Dr. C. H. Orr. She discharged per anum three ribs and several smaller bones previous to her death, which occurred on the 12th June, 1867. If her statement was correct and it is corroborated by her husband, this fœtus must have been carried at least nineteen years. She was married at twenty-six, had her first child at twenty-eight, aborted at thirty, and was pronounced pregnant again between thirty-three and thirty four, and died at fifty-three years. The post-mortem appearances were as follows, as shown by the autopsy made in my presence by Drs. Orr and P. A. Henly.

Autopsia Cadaverica.—Mrs. C. R., æt. 53, died June 12th, 1867. Post-mortem examination two hours after death. The embonpoint of the body was good, the adipose deposit being fair, and filled out with a general anasarcous deposit. The abdomen was prominent, and presented on its anterior and right aspects an irregular slough, four inches long and two and a half inches broad, extending from the umbilicus downward. This slough embraced the skin and sub-cellular tissue, but about one and a half inches below and to the right of the umbilicus, it had perforated the abdominal walls, through which presented the edge of a bone of a dark-brown color, and evidently belonging to a fœtal cranium.

Sectio cadaveris by a crucial incision extending downward from the sternum to the pubis, exhibited the omentum of natural color and sufficiently adipose above the umbilical region and to the left side. On the right side adhesion to the abdominal walls at the point of perforation, and to the extent of the external slough, was so complete as to obliterate the omental character, as also any division between the omentum and parietes; in fact, around the tumor, on its superior, posterior, and anterior regions, adhesions had reduced omentum, intestines and tumor, into one common mass. Adhesions had also formed between the omentum and the inferior edge of the liver, which latter organ was found enlarged, of a pale red or rose color, its inferior edge being rounded to a thickness of two inches; the gall-bladder was thickened, opaque, and very much distended with a light-colored liquid. The intestinal tube was pale, thickened, and contracted; the peri-

toneal sac in the vicinity of the tumor was very much thickened, in some places measuring one-fourth inch, binding the bladder low down in the pelvis, contracting the capacity of that organ, whose coats were also thickened. The uterus was pale and small, measuring two inches in length, and one and a half in breadth.

An incision through the long diameter of the tumor (which was the right ovarium) showed its walls to vary in thickness from a half to one and a half inches, showing at various points the appearance of Grafian vesicles magnified in correspondence with the walls of the sac, which in its anterior wall presented one vesicle three-fourths of an inch in diameter, converted into a hydatid.

The bone penetrating the abdominal walls was, on opening the sac, found to be a parietal bone of a fœtal cranium of about eight months development. The sac contained all the cranial bones, many of the ribs and bones of the upper and lower extremities, the carpus and tarsus, with their phalanges, and a considerable quantity of small granular bodies, apparently the spongy substance of the vertebræ, etc., floating in a dark, semi-putrid purulent fluid. The bones of the upper and lower extremities appeared to have a development of about five or six months, while the ribs corresponded with that of the cranial bones. The clavicular and scapular bones, in proportion to the ribs, were small, and apparently a malformation, the acromial and spinous process of the scapula forming more than half its entire bony structure; the clavicles, very short and thick, seemed to have developed to correspond with the acromion. One clavicle and scapula, and three ribs, previous to death, had been discharged per ano, and corresponded in size and appearance with their mates found in the sac. The ovarian sac was of a uniform dark-red color, and was perforated at four points, one opening through the abdominal walls, as above named, two entering the small intestines at different points, the fourth emptying into the rectum, which contained a number of the smaller bones of the fœtal system. The right Fallopian tube was found to be imperforate and degenerated into a round hard fibrous cord. There were no evidences of recent inflammation in any of the abdominal organs or tissues involved in the disease, but all except the tumor itself presented an unusually pale appearance.

Remarks. By. Dr. C. H. Orr.—The above case contains several valuable points for consideration, and it is a matter much to be regretted, that a more accurate, and therefore more reliable history of the early portion of the case could not be had. It, nevertheless, suggests some important suggestions physiologically and pathologically considered. The early history and post-mortem indicate regular fœtal development; the post-mortem appearances indicate that development to have taken place in the ovarium and apparently in the impregnated Grafian vesicle. My limits do not permit a discussion of the various points connected with this part of the case; they are left to the reflection of the

intelligent reader. At what time did the death of the fœtus take place? The history of the case, so far as it was had, and the size of the fœtal bones indicate a development of eight months. When did the process of fœtal decay set in? Was it at her first illness, described as taking place in Germany, about 1848, or at the later period of 1865, when first professionally visited by Dr. S? Was the decay of the circulatory system of the fœtus at one period, and the decay of the fœtus itself at a subsequent period? Had the putrefactive condition anything to do with either of these attacks? To what extent was the febrile attack of 1866 dependent upon and attributable to the putrid mass in the ovarium? Were the gastro-enteric symptoms of 1866 referable to the adhesive process shown by the post-mortem examination to have been set up by nature as a safeguard to ridding the system of the fœtal debris? Was there a point when surgical assistance could have been rendered to the perfect safety of the patient?—*Medical and Surgical Reporter.*

Hour-Glass Contraction of the Uterus Simulated by the Pressure of a Narrow Binder: By WILLIAM T. GREENE, M. B., Physician to the Moira Dispensary.

ON the 5th of June last, I was called to see Mrs. E. L., who had given birth to her first child on the previous evening at ten P. M., after natural and not very protracted labor; but who, although fourteen hours had elapsed since the termination of the second stage, had not yet been delivered of the placenta.

On my arrival at the house, I found the patient, a middle-sized healthy young woman, of about twenty-five years of age, in a state of abject terror, and much exhausted. Her attendant, an ignorant old woman, had tied the end of the funis that protruded externally to the foot of the bed, in order "to prevent its going back." The unfortunate patient had also been directed to keep "quiet"; and, following the nurse's injunction to the letter, and not ventured to stir, even to empty her bladder, of which she stood in urgent need. There had been some *post-mortem* hæmorrhage, though not to any great extent. A vaginal examination told me that the placenta was retained in the uterus; but, before attempting its removal, I proceeded to examine the abdomen externally, and found a very narrow binder, tightly applied below the uterus, which was much enlarged, but not tender. Thinking that I had discovered the cause of retention of the after-birth, I immediately loosened the binder, when an enormous clot escaped, and, in a minute or two, the long-retained placenta. Good contraction followed, and the patient recovered without any bad symptom.

In this case, the narrow binder originally applied, or which had slipped below the uterus after the birth of the child, had prevented the escape of the remaining contents of that organ, simulating that rather unusual complication of the child-birth, hour-glass contraction of the uterus.—*British Medical Journal.*

Tubal Pregnancy: By M. M. PALLEN, M. D., Professor of Obstetrics, etc., in the St. Louis Medical College.

WHILST on a visit to the Hot Springs in Virginia, this summer, a distinguished physician of Richmond, related to me the particulars of the following case:

A lady having gone to market early in the morning, on her return home was seized with great pain in one of the iliac regions. She was in the third or fourth month of pregnancy, (I forget which). She had vomiting, and threw up corn which she had eaten the day before. The doctor being sent for, prescribed for her such remedies as the symptoms seemed to demand. As she was suffering so much, he promised to return to see her very soon. When he came back, her condition was not ameliorated at all. It was worse. The treatment was continued, and the doctor left, returning however at about noon. He discovered that she was moribund, and she speedily died.

On opening the abdomen after death, a large quantity of blood was found in the abdomen. The Fallopian tube was ruptured, and the embryo had passed out.

A gentleman (Dr. Steele) who practised in Alabama several years ago, sent me a preparation taken from the body of a negro woman. It was the uterus with the Fallopian tube ruptured, and the cyst which had escaped through the seat of the rupture. The woman was in the sixth or seventh week of pregnancy. She was suddenly seized with great pain in the left iliac region, became faint and her extremities were cold. She survived but a few hours.

Dr. Meigs says that he has met with four cases of tubal pregnancy, three of which he describes; and he properly enough says: "If a woman experience the signs of pregnancy, such as the changes in the aureole, nausea, pica and malacia, growth of the breast, extraordinary sensation within the pelvis, etc., and thereupon, when having attained to the middle of the second, or to the third month, be seized with horrible pain in the hypogastrium and pelvis, turn pale, lose the pulse, and faint, I should suspect the rupture of a tube-sac, of extra-uterine pregnancy."

It has happened that a tubal pregnancy has co-existed with an extra-uterine pregnancy. A remarkable case of this nature is described by Professor Hodge, of Philadelphia. A woman who suffered a great deal from febrile symptoms, was delivered of a

fœtus during the fourth month of pregnancy. and then died. On post-mortem examination, a fœtus with membranes and placenta of the same age and size, was found in the left Fallopian tube.

A similar case is described by Duverney. When rupture of the tubes occurs, there is hæmorrhage; but it does not necessarily follow, that when hæmorrhage occurs, there is rupture of the tube. The cyst may rupture, and the hæmorrhage may escape into the tube without its rupture, and into the uterus. The cyst may rupture, and the blood accumulating in the tube may so distend it, that it gives way from that cause; or, it may happen that the growth of the cyst itself, ruptures the tube, and then the hæmorrhage takes place from the tube.

It is very difficult to explain the causes of tubal pregnancy. It has been supposed to be owing to some spasmodic action in the tube, or the closing of its walls after the union of the sperm-cell and germ-cell at the ovary. But the cases reported by Dr. Hodge and Dr. Duverney, rather oppose this idea, unless it is supposed that conception took place in these cases at different periods.

I perceive by the analysis given in the Medical and Surgical Reporter of Philadelphia, October 5, of the Transactions of the American Medical Association, 1867, that Dr. Stephen Rogers has a paper on extra-uterine Fœtation and Gestation in the volume. The treatment recommended is gastrotomy, as soon as the tubal cyst bursts into the peritoneal cavity. I have no comments to offer on the plan suggested, as I have not read the paper; the volume is not yet in St. Louis.

Dr. Graily Hewitt, in his work on the Diagnosis and Treatment of Diseases of Women, published in London, in 1863, favors the plan. He says, "If it were possible to make an exact diagnosis of these cases of rupture and hæmorrhage during life, it would undoubtedly be better to open the abdomen, and endeavor to secure the bleeding vessels, than to allow the patient to die from hæmorrhage."—*Humboldt Medical Archives.*

Cæsarean Section in a case of extreme Distortion of the Pelvis; safe Delivery of the Child: Under the care of Dr. EASTLAKE, British Lying-In Hospital.

ON the night of the 5th instant, Dr. Eastlake was called to a primiparous patient, aged twenty-one (in the out-patient department of the British Lying-In Hospital), who had been in labor since Wednesday, the 2d. The liquor amnii had escaped two days previously; the fœtal heart was audible; the head presented. The patient presented all the characteristic appearances of rickets, the tibiæ being excessively distorted. The conjugate diameter of the inlet of the pelvis was excessively contracted; it

was estimated by Dr. Eastlake and Mr. Nunn, who kindly assisted at the operation, to be under two inches. The two fingers, being introduced between the promontory of the sacrum and the pubis, could hardly, if at all, be separated. Dr. Eastlake resolved to perform the Cæsarean section, feeling satisfied that craniotomy was in this case impracticable. Chloroform having been administered, an incision was made, commencing at the umbilicus and extending four or five inches downwards, the peritoneum and uterus being divided in succession. The placenta was found to be placed wholly in front. The placenta was removed, and the fœtus immediately extracted. The means of resuscitation applied to the infant were presently successful; and the child, a female, has since been doing perfectly well. The mother has suffered severely from vomiting and tympanitis. She was in a precarious condition four days after the operation.

*** Since the above was in type, we learn that the mother has died (Wednesday evening) from exhaustion.—*British Medical Rec.*

Prolapse of the Funis: By CHARLES E. STEDMAN, M. D.

AT half-past twelve in morning of June 19th, I was called to Mrs. C. D., a thick-set little woman of twenty-two years old, in labor for twelve hours with her first child. On examination, the forefinger just reached the head, which was high up, and something presented within the unbroken membranes. The os being well dilated, the waters were evacuated, and the bunch in advance of the head proved to be, as conjectured, the entire cord, pulsating and rolled up into a tight ball of the size of the fist; the head was in the first position. The patient was requested to take her position on the elbows and knees, which she readily did when the necessity for the posture was explained. After carrying the right hand into the vagina, I succeeded, by a little manipulation, in returning the whole cord behind the ear of the fœtus. The hand was kept on the aperture where the cord had disappeared till two slight pains had occurred, and after twenty minutes the woman was released from the constrained posture, and allowed to come over on her left side. There being no further appearance of the cord, and the pains being feeble and slow, she was allowed to leave the bed and walk about the room. In two or three hours the contraction of the womb grew vigorous, and after a very hard labor, she was delivered at one o'clock of a large, live boy.

It may be unnecessary to state that this treatment of prolapse of the funis is the "postural treatment" of Dr. T. Gallard Thomas, and has already given a large proportion of successful cases; if there have been any failures, I have not seen them reported,

though several favorable results have been detailed in the journals.

Dr. Churchill says that more than one-half the children are lost in cases of prolapse of the cord. If the accident is so fatal, the profession owes much to Dr. Thomas for pointing out so simple a remedy as the taxis, combined with such a posture of the patient as will allow the weight and slippery nature of the funis to rectify the presentation. Version, unless performed immediately after the rupture of the membranes, is generally fatal to the child, and is not always safe for the mother, while the operator's trouble is thrown away if the child is not born rapidly. Late writers mention Dr. Thomas's practice, but do not give him all the credit he seems to deserve. Dr. Bedford says, in a foot note, that he "should not omit to mention an ingenious plan suggested by Dr. T. Gallard Thomas for the reposition of the cord." Dr. Hodge says, "it may be well to follow the suggestion of Dr. Thomas * * * this probably is an effectual method * * * should it fail, some of the numerous expedients which have been proposed may be adopted."

Dr. Bedford further: "I have very little confidence in any of these contrivances. They may sometimes succeed in dexterous hands, but very frequently they fail. * * It is amusing to hear the facility with which the reposition of the funis can be effected. But, gentlemen, it is one thing to talk and quite another to act."

My friend, Dr. W. C. B. Fifield, tells me that in two cases of prolapsed funis, after unsuccessful attempts to replace it, he had performed version and delivered dead children. Not long ago he was called to a case where a midwife was in charge; he found a soft and dilated os, through which the cord depended, pulsating. Placing the patient on her elbows and knees, he carried the cord above the presenting head by his hand introduced into the vagina, administered ergot, and kept the funis back with his hand till the head plugged the brim of the pelvis. The child, though born with little pulsation, responded to treatment in half an hour, rewarding the Doctor's exertions by a gasp, and is now living.

It is to be borne in mind that a position on the *hands* and knees does not give slant enough to the plane, which must be inclined as much by the patient's resting on her elbows or even shoulders, while, if needful, a pillow must be placed under her knees, to elevate the hips; and I have heard of a woman's shoulders reposing on a chair while her knees remained on the bed.

If this method requires little dexterity in its execution, and is successful in cases where the doctor is called before the head is jammed into the lower strait, it is no small gain on the old practice of fishing for the cord, and trying to poke it back with whalebones, and tapes, and bags, and wreathing it in graceful festoons about the limbs of the fœtus. If all gentlemen would report their cases of prolapsed cord, treated by this method, whether successful or not, we would soon be in a position to compare the old

ways with the new, and find perhaps that the postural treatment is an aid in other presentations. Indeed, I see by the Philadelphia Reporter of the 22d June, that Dr. E. R. Maxson, of New York State, gives cases, in the first of which he replaced a prolapsed cord, and converted an abdominal presentation into a cephalic by the aid of this posture. Being called afterwards to a case of shoulder presentation, he states that he found little difficulty, after placing the woman on her shoulders and knees, in pushing the child's shoulder away from the brim, and bringing the head down, keeping it there till it engaged.

If these somewhat crude observations should induce some of the numerous readers of the Journal to favor us with their experience in this matter, the purpose of their publication will be fulfilled.—*Boston Medical and Surgical Journal.—Detroit Review of Medicine and Pharmacy.*

Extra-Uterine Fœtation treated by Abdominal Section; Recovery: By J. Braxton Hicks, M. D., F. R. S.

Mrs. C——, aged thirty-five, had been amenorrhœic about four and a half months, when she was seized with acute peritonitis, the effects of which had somewhat subsided about a month after, when Dr. Hicks saw her. The examination of the abdomen was very difficult, owing to its tenderness, but she complained very particularly of the region to the right of the umbilicus. At this part a tumor was felt, which seemed to contain a solid mass within. A week after fluid had taken the place of the gas, and diarrhœa, with putrid evacuations, had occurred. Symptoms of irritative fever now became very urgent, and it was determined to remove the fœtus, should examination under chloroform support the view which had from the first been entertained of its being a case of extra-uterine fœtation in communication with the intestines. Under chloroform the case was much more readily made out. The cyst could be clearly defined; it was about six inches in diameter, reaching from near the umbilicus to the right flank, and having its centre upon a level with the umbilicus. The most tender spot was fixed upon for incision, which was carefully made down to the peritoneum. This was found adherent to the cyst. It was carefully opened, and a quantity of offensive gas issued. On looking within, the fœtus was seen. The wound was then enlarged to the extent of two inches, guided by exploration by the finger, so as not to extend beyond the line of adhesion. The fœtus, much decomposed and putrid, about the size of four and a half months development, was carefully removed by an ovum forceps. A few ribs had become detached, and were then removed. The placenta being adherent deeply and firmly, it was allowed to re-

main, to come away gradually. The cyst was then washed out with weak Condy's solution, and a wire suture capable of being unfastened was placed in the centre of the wound. The placenta came away in a state of decomposition in portions daily up to the end of the fifth day, by which time purulent took the place of putrid secretion. The cyst was washed out every day for a fortnight, when all fetor ceased. A pad was placed on the exterior of the cyst, supported by a bandage, to facilitate the escape of the pus. By the end of five weeks the walls of the cyst had united, and by the end of seven weeks the wound was closed. The health of the patient improved rapidly; the vomiting, very severe before the operation, ceased immediately; by the end of two months she was able to be about, and shortly after was in complete health. Dr. Hicks then alluded to the value of abdominal section where the cyst had formed communication with the intestine; at the same time remarking on the care which should be employed in making the opening through the parietes, lest it extend beyond the line of adhesion, for in a similar case in which he had operated it was found that the portion adherent was small compared with what might be expected after so great an amount of irritation. He thought that the best guide was to open at the point of greatest tenderness, and to extend under the guidance of the finger passed within. To prevent the peritoneum being opened as well as to avoid hernia after recovery, it was advisable to make the opening as small as possible, removing the fœtus carefully, and if necessary, piecemeal.—*Lancet.*

QUARTERLY RECORD OF OPHTHALMIC AND AURAL SURGERY.

COLLATED BY W. S. MITCHELL, M. D., PROF. OF ANATOMY, OPHTHALMIC MEDICINE AND SURGERY IN NEW ORLEANS SCHOOL OF MEDICINE.

On the Relative Value of Atropine and of Mercury in the Treatment of Acute Iritis: By. T. P. TEALE, (Ophth. Hospital Reports, v. 156).

THE author's conclusions are—1. Iritis can generally be cured, quickly and perfectly, by atropine alone, or by atropine and mercury combined, without the aid of other remedies. How far opium, blisters, leeches, and venesection aid and accelerate progress, I have not yet tested, wishing in the first instance to determine the value of the remedies under consideration, and then to make the results herein obtained a starting point for further inquiry.

2. The presence or absence of syphilis does not affect the question of treatment.

3. Many, perhaps one-half, of the cases of iritis *whether syphilitic or not*, can be cured by *atropine alone.*

4. Those cases in which atropine fails to dilate the pupil in twenty-four or forty-eight hours, require mercury. In occasional cases, the application of leeches renders an eye susceptible of dilatation which at first was unaffected by atropine.

5. When mercury is required it ought to be introduced into the system rapidly.

6. If the system is to be affected by mercury, the mercury ought to be introduced *by the skin*, NOT by the *stomach.* When this drug is introduced by the stomach, the digestive powers are depressed at the very period when their healthy function is most needed. When introduced by the skin, its full remedial effects are obtained without any impairment whatever of the power of nutrition. It is my rule never to introduce mercury by the stomach when I wish to obtain rapidly the constitutional effects of the drug.

7. In those cases which require mercury, it is sufficient to render the gums slightly tender. When the gums are even slightly affected, we have therein evidence of the introduction of mercury into the system in quantity sufficient to turn the scale in favor of health, and carry the case to a successful issue. Therefore, the moment we find the gums undoubtedly tender, or beginning to be tender, we may suspend the drug.

8. In most cases the constitutional effects of mercury, indicated by tender gums and improvement of symptoms, may be obtained on the second, third or fourth days, provided the patient be confined to bed. Absorption of mercury by the skin appears to be *much more* rapid when the patient is confined to bed than when he is allowed to go about as usual.

9. Atropine should be used during the whole period of treatment, except where it causes great pain or increases conjunctival irritation, in which case it may be *temporarily* suspended, or dissolved in glycerine and applied to the skin.

10. That in cases requiring mercury the coincidence of tenderness of gums, of relief from pain, and of the action of atropine on the pupil is almost absolute, even to an hour or two. Perhaps in cases more severe than those recorded, with great effusion of lymph, the visible effects of atropine may be delayed till a later period. On this point I do not possess evidence.—*Ophthalmic Review.*

Foreign Bodies in the Ear: By HENRY L. SHAW, M. D., (Communicated for the Boston Medical and Surgical Journal.)

A FOREIGN body in the ear is always a source of anxiety to the friends of patients; and although its removal, if accomplished in season, is quite easy, it is often by delay rendered very difficult.

Most of the foreign bodies met with in the ears of children are put in while at play, and are often forgotten. With adults their introduction is almost invariably due to the use of extemporaneous ear picks for the relief of the intolerable itching in chronic inflammation of the dermoid layer of the external auditory canal.

The ear is more tolerant of foreign bodies than is generally supposed. Cotton, which, from a belief in its virtues, is frequently introduced into the meatus, would often remain for an indefinite time, if the patient was not admonished by the increasing deafness to seek relief. Toynbee speaks of a dissection where cotton, which had probably been in the ear for years, produced absorption of the bony meatus. We can recall several cases where it remained for many years, unknown to the patients. Other foreign substances may be carried the same length of time. In a late number of the Lancet is the report of a case, where a piece of slate pencil was left in the ear for over forty years. In one of our own cases, a stone, the size of a pea, remained in the canal for years before trouble was produced, and it was then caused by attempts at removal. Still another case was that of a playmate, who carried a bean in his ear for twenty years, with no bad effect, except slight deafness.

In our own experience the following substances have been met with; beans, cotton, slate pencils, peas, maggots, cockroaches, beads, glass, crockery, shells, paper, pins, ivory, teeth of combs, stones and seeds.

The amount of trouble produced by foreign bodies in the ear depends upon their nature, position and size. Hard, smooth substances, and those not easily affected by moisture, produce far less trouble than those of softer material, which are readily expanded.

At about the middle of the external auditory meatus the canal is angular. This change in its course serves somewhat as a check to the passage of foreign bodies. It is in this part of the canal that they are apt to lodge, and may remain for years before producing any injury. In works on anatomy the external meatus is described as being narrowest at the middle. The meatus, just before it reaches the membrana tympani, is somewhat expanded, as is also the entrance. With the exception of this dilatation at the ends, its diameter is quite uniform. A casual glance might lead one to suppose that there was considerable narrowing at the angle, but on straightening the meatus this apparent narrowing will disappear. An examination of the casts at the Warren Museum, taken by Dr. R. M. Hodge, confirms the above statement.

The symptoms caused by the presence of a foreign body, depend very much upon its position. When imbedded in wax, as is often the case, or fixed on the walls of the meatus, it will not be likely to cause serious trouble. Not so, however, if it is at the bottom of the canal, in contact with the membrana tympani, or pressing upon it. Such a case is usually attended with giddiness, and a

feeling of fullness of the head; which, if the foreign substances, allowed to remain, may be followed by convulsions and even a fatal result. One would suppose, from the fact that casts of hardened cerumen are occasionally taken from the lower half of the canal, that the membrana tympani would readily tolerate the presence of a foreign body. When pressure is applied over that portion against which the handle of the malleus rests, it is attended with pain and marked cerebral disturbance. The same is true of the rest of the drum, but in a less degree. Besides the injurious effects above alluded to, the pressure of a foreign body on the membrana tympani is very likely to be followed by ulceration and perforation of that membrane, and organic changes in the tympanic cavity, which will seriously affect its integrity. Many cases of internal otitis owe their origin to this cause. We can recall two cases of the kind; in one of which the suppurative process was arrested by the removal of a piece of slate pencil, which protruded into the tympanum; in the other, the suppuration was undoubtedly prolonged from the presence of a glass bead in the tympanum.

When a foreign body is so large as to fill the whole diameter of the auditory canal, and press with considerable force upon its walls, it will almost invariably excite acute inflammation. In some of these cases the swelling is so great as to completely close the entrance of the meatus; rendering even an exploration impossible. When in this inflamed condition, the ear will be found to be very sensitive. The use of the speculum auris at this time will give rise to excruciating pain, and will be likely to be followed by considerable hæmorrhage. Under these circumstances all attempts at removal should be deferred, until the acute symptoms have subsided. Great relief will often be afforded by the application of leeches in front and below the external meatus, warm fomentations, etc. Occasionally, when suppuration begins, there will be a spontaneous discharge of the foreign substance.

In most cases foreign bodies are lodged in the angular portion of the canal; the exceptional cases being those where, from unsuccessful attempts at removal, they have been pushed through the membrana tympani, or where that membrane, from previous inflammation, or ulceration induced at the time by the pressure of the foreign bodies, has been perforated and has allowed them to pass beyond it. One would suppose that it would be impossible for a judicious practitioner to produce this result. This accident is, however, not uncommon, and can doubtless in most cases be traced to attempts at removal with instruments when the ear was poorly illuminated.

It is rare for foreign bodies to remain long in the tympanic cavity without producing serious symptoms. These will be modified somewhat by the nature of the substance, and the condition of the tympanum. If this has been previously disorganized by inflammation, as in most cases of otitis interna, less trouble will

probably ensue, than when it is in its normal condition. Beans and peas, the foreign bodies most frequently met with in the ear, are, from the facility with which they swell, most likely to produce fatal results. Undoubtedly in some cases the fatal result is due to the violent manipulations to which the ears have been subjected by the friends of patients, or to their not having consulted the surgeon until inflammation and swelling have ensued, which rendered their removal extremely difficult or perhaps impossible.

When a patient is presented with a suspected foreign body in the ear, it is of great importance to examine thoroughly the auditory canal: much useless syringing may thus be avoided. By the improved method of Troeltsch this examination is possible at all times, and brings to view the whole of the meatus, and if necessary the tympanum.

Too much cannot be said in favor of the syringe for the removal of foreign bodies, of whatever kind, from the ear. As a rule it will be found successful; the exceptional cases are indeed very rare. Most authors agree as to its great advantages over all other instruments. Yet, to judge from the cases presented at the Infirmary, one is led to believe that practically it is not much relied upon by the profession. With the syringe, accidents which sometimes attend the use of other instruments are avoided, as it is almost impossible with it to injure the surrounding parts. When the ear is well illuminated a foreign body may often be removed with instruments much more quickly than with the syringe, yet there is more risk; and the attempt, if unsuccessful, may, by injuring the walls of the canal, render removal of the substance by the syringe more difficult.

In this connection it may be well to speak of the manner of syringing an ear. Although generally considered an easy matter, it is often, from the non-observance of certain precautions, very ineffectual. The most important precaution is to straighten the canal, which, as is well known, is readily effected by pulling the external ear upward and backward with the left hand, while the right is free to use the syringe. By so doing we avoid putting the nozzle of the syringe into the external meatus, and thus frequently save the patient much pain, at the same time are enabled to act directly upon the foreign substance. The choice of a syringe is a matter of less importance; any one having a tightly adapted piston will usually succeed very well. The small two-ounce rubber syringes, the pistons of which are generally accurately fitted, will be found the most reliable and convenient. The water used (which should be quite warm and pure) ought to be injected with very slight force at first; afterward the force may need to be considerably increased. The bursting of bubbles of air in the external meatus gives rise to very unpleasant sensations. This can generally be avoided by using a good syringe, and taking the precaution to fill it very slowly, so that no air shall be sucked up.

The facility with which a foreign body can be syringed from the ear depends somewhat upon its position, and very much upon the material. If it has passed but a short distance into the passage, a few syringesful will often be sufficient. Not so, however, if it is at the bottom of the canal, or impacted. Then the syringe may require to be used many minutes. Hard, smoothe substances, as stones, beans, etc., are dislodged more readily than those of softer material, as paper, cotton, etc.

Foreign bodies sometimes become quite firmly attached to the walls of the canal, as in the interesting case reported by Dr. E. H. Clarke, where a bullet fixed in the bony meatus was removed by pressing upon it a strip of adhesive plaster, and then heating it by means of a convex lens until it adhered to the bullet. Should the symptoms admit of delay in these cases, the removal of foreign bodies may well be deferred, the passage being frequently filled with tepid water, until they are sufficiently loosened to allow their easy removal with the syringe.

Sometimes the foreign substance so completely plugs the meatus as not to allow the water to pass behind it. This, however, can only be ascertained by trial with the syringe. Many cases when examined by the speculum appear to be in this condition, but on using the syringe the foreign bodies are readily discharged. If, after continued syringing, the foreign substance is not removed, its position can sometimes be changed by the pointed end of a curette, or probe, when the syringe can again be used with greater probability of success. Only a very slight change in the position of a body is usually sufficient to ensure its removal with the syringe. Sometimes, however, the syringing has to be continued for a long time before it is successful.

With infants and young children great difficulty is often experienced in preventing violent movements of the head during the attempt at removal. An effort to straighten the canal even may be followed by a change in the position of the patient's head. When the passage is inflamed, the pain attending the removal may be very severe. Under these circumstances the use of ether will be found not only of great advantage, but frequently indispensable.

Cases requiring the exclusive use of instruments are very rare. A most thorough trial of the syringe should always be made first. Instruments are, however, occasionally of great assistance, and sometimes absolutely necessary. To use them with safety the external auditory passage requires to be thoroughly illuminated; unless this can be effected, there is danger of producing more injury than might result from allowing the body to remain. A pair of rectangular forceps furnished with teeth, will be found of great service for the removal of substances which admit of being grasped, as paper, cotton, etc. The principal risk in their use is the danger of pushing the body further into the canal. This can be avoided generally by fixing it with the pointed end of the curette, before grasping it with the forceps.

The curette and other instruments are sometimes used as levers, by making a fulcrum of the walls of the canal. This method of procedure, should always be avoided. If the body is but a short distance in the meatus it can be remove more easily and with less risk than by this method. If the body is well advanced in the canal such a course can do no good, and may be of positive injury to the soft parts. Cases which seem to require the use of instruments in this manner, can be best treated by fixing the body with the curette, and then grasping it with the forceps as above described.

After the removal of foreign bodies there is generally considerable vascularity not only of the meatus, but of the membrana tympani. This is often due to the irritation produced by the foreign substances, but it is usually attributable to the efforts at removal. It is, however, of short duration, lasting frequently less than a day.

But little after-treatment will generally be required. In cases accompanied with considerable inflammation of the meatus, it may be necessary to use injections of tepid water. Should it show a tendency to become chronic in its character, the addition of a few grains of acetate of lead to the ounce of water will generally be found sufficient to arrest it.—*Boston Medical and Surgical Journal.*

Practical Remarks on the Diagnosis and Treatment of Iritis: By Dr. R. Schirmer, of Greifswald. *(Klin. Monatsbl. f. Augenheilk.*, Mai, 1867.*)*

It is beyond dispute of the greatest importance to diagnosticate an iritis in its very first beginnings, before posterior synechiæ have been developed, because it is then usually easy to remove the inflammation and to restore the iris *ad integrum*, whereas in the later stages it is by no means always possible to burst the posterior adhesions and to prevent chronic iritis. Yet it is known to every oculist, that an iritis is still very frequently mistaken.

The time is not long past when many among the ordinary practitioners considered ciliary neurosis as the chief symptom of the said inflammation. As soon as this was examined out of the patient, it was said: ciliary neurosis—*ergo*, iritis! This was indeed very convenient, to be told the diagnosis by the patient himself, whereby a careful examination of the diseased eye was rendered superfluous. In this wise it was ignored that ciliary neurosis may be present in many other affections of the eye, as keratitis, granular conjunctivitis, etc., and, what is still more important, that it is absent in some cases of decided iritis.

I consider it not irrelevant, therefore, to call particular attention to a symptom of incipient iritis which I consider as the most infallible, which is not difficult to recognize, as I have been able always to observe in my clinical exercises, and which pertains to the inflamed membrane itself. I refer to the loss of brightness of the anterior surface of the iris, its lustreless appearance—a pathological change probably based upon a cloudiness or exfoliation of the epithelium, just as the anterior surface of the cornea in keratitis appears lustreless where it has lost its epithelium.

I am well aware that this is not a newly discovered symptom of iritis, but mention is made of it in the text-books only casually, and it is not pointed out as the first visible and most reliable sign of iritis. For the sake of comparison, I have reviewed the chapters on iritis in the latest text-books on ophthalmology, and found the following symptoms given as the first signs of iritis: Meyr (*Comp. d. Augenheilkunde*, 2d ed., 1866) mentions subconjunctival injection, alteration in the color of the iris and the form of the pupil; Laurence-Moon (*Handy-Book of Ophthal. Surgery*, 1866) episcleral injection, impeded motion of the pupil and exudation of the iris; Wecker (*Traité des Mal. des Yeux*, 1864) injection around the cornea, cloudiness of the contents of the anterior chamber, together with posterior synechia and altered color of the iris; Fano, who however still clings to a specific classification of iritis (*Traité des Mal des Yeux*, 1866), subconjunctival injection and disturbed vision in consequence of exudation into the aqueous humor, whereby the pupil no longer appears quite black, the iris is rendered less shining and lustreless, and the motions of the pupils become slow. Most clearly our chief symptom is mentioned in Stellwag's excellent *Lehrbuch d Augenheilk.*, 3d ed., 1867, where we find, beside ciliary irritation and discoloration of the iris, the indistinctness of the normal makings of the iris esteemed as a sign of equal value. But I should like, taught by experience, to vindicate to the loss of brilliancy of the iris the rank of the first and most important symptom, and shall therefore show in addition, why the other symptoms mentioned are inferior to this.

Injection beneath the conjunctiva is not peculiar to iritis, but belongs likewise to cystitis and keratitis, although in the phlyctænular and ulcerative processes of the matter it is only partial; it is found universally in granular conjunctivitis and—what is less generally known—in simple conjunctivitis whenever the latter is caused by the introduction of foreign bodies into the conjunctival sac.

The altered color of the iris, which in inflammation of this membrane passes into a greenish or reddish color, is a deceptive sign. In the first place it is difficult to many to judge of shades or color, much more difficult than to judge of loss of lustre, and even after comparing the healthy eye with the diseased, the not very rare cases of heterophthalmos may lead one astray. Moreover, a case of iritis which has terminated with a few remaining posterior adhesions may have left behind permanent changes of

color, although the iris has recovered its shining coat. Finally, I have repeatedly observed cases where, in consequence of a hyperæmia, the blue tissue of the iris assumes a greenish color during the resorption of the blood, without losing its gloss and without all trace of iritis

The play of the pupil is not essentially disturbed until posterior synechiæ have been formed; but to us it is of the utmost importance to diagnosticate the iritis sooner. The same is impeded likewise, if posterior adhesions have remained after a previous inflammation.

In diffuse keratitis it may sometimes become more difficult to judge of the lustre of the anterior surface of the iris; but often a portion of the cornea remains clear and shining, through which a clear view of the iris may be obtained. Should this be impossible it is preferable to treat the affection as kerato-iritis, with atropine; it is better for the patient that kerato-iritis be diagnosticated incorrectly, than that by reason of the keratitis the iritis be overlooked. If diffuse cloudiness of the aqueous humor is present, which of course veils the iris, iritis is always present.

To make use of atropine as the surest diagnostic means of iritis, and to rely upon this, as is done here and there, should be discarded. If after the use of atropine full mydriasis takes place, iritis is presumed to be absent; if the pupil becomes angular, iritis is believed present. We know that iritis may exist without posterior synechiæ, and we know that posterior adhesions remain after many an iritis that has terminated. Atropine is well adapted only to make the existence of posterior synechiæ more distinct.

The treatment of iritis has been entirely changed since the introduction of mydriatics into ophthalmic practice. Since then atropine has become the principal remedy in combating this inflammation, which often alone suffices and frequently renders the abstraction of blood entirely superfluous. Only with pronounced ciliary neurosis, or when mydriasis does not sufficiently take place after the atropine, local blood-letting is indicated by means of leeches or by Heurteloup's. The latter, I have often convinced myself, operate no less well in iritis than the natural leeches; they can be applied more rapidly, admit of greater cleanliness, and are —for clinical practice—of a lower price.

It is not my intention here to enter upon the other—auxiliary —therapeutic means; I will only add a few words on the use of the extract of *Calabar bean* in iritis: It had often happened to me that, in spite of energetic use of atropine carried even to intoxication, I had not been able to rupture all posterior synechiæ. When the myotic effect of Calabar bean had been discovered, I believed myself in possession of a new means for the removal of adhesions between the iris and the capsule of the lens. Theoretically I was of opinion that the myctic must exert traction from the periphery to the centre. . . . . In the iris,

however, radial traction is exerted only by the atropine by means of the radiating muscular fibres. The sphincter pupillæ, even if it contracts, effects no such radial traction; for it has no fixed point in the centre of the iris, as the dilatator pupillæ muscle has in the periphery. Hence, if but one strong posterior adhesion is present, the artificially contracted pupil will be excentrically dislocated towards that spot. If two posterior synechiæ exist, the sphincter will be divided into two halves, each of which will contract independently and exert a more lateral traction upon the synechiæ. Rupture of the weaker adhesion is in this case, however, more easily possible, because the other firmer one may serve the sphincter as a fixed point.

I must frankly acknowledge that for the above purpose the extract of Calabar has thus far disappointed me, and that atropine has proved by far more effectual. Nevertheless, this shall not deter me from further experiments with this myotic, especially as O. Becker has, in two cases, ruptured posterior sinechiæ with the extract of Calabar bean.—*St. Louis Medical aad Surgical Journal.*

On the Pathology of Tinnitus Aurium, or the Cause of the Noise which Spontaneously Occurs in the Ear; with Remarks on some of the Acoustics of the Sense of Hearing: By JOHN BISHOP, F. R. S., F. R. C. S.

SINCE the catastrophe which followed the experiments made on himself by the late Mr. Toynbee for the relief of these sounds in the ear, or what is technically demonstrated Tinnitus Aurium, my attention has been more especially called to this subject in consequence of having been recently consulted in several cases by persons suffering from this malady.

Among the many affections of the nervous system, both normal and abnormal, there are few, perhaps, that present more subjects for profound and recondite thought than those that occur in the nevous structures specially modified for the functions of sight and hearing. Why the undulations of a subtle medium, such as that which gives light and the sense of vision, or the waves of the air, can produce the sense of hearing we are totally ignorant; and with respect to the means by which these senses are excited, there are some special questions the answer to which are still held in abeyance.

Among the phenomena attending the functions of the organs of hearing, there are some so peculiarly interesting and mysterious as to have roused the attention of mathematicians of no less distinction than Euler, Duhamel, Helmholtz, and others. For example, let us inquire how is the ear so affected as to be

capable of receiving and transmitting to the mind a great number of sounds impinged at the same time on the membrana tympani, and by which the mind is enabled to distinguish the quality and pitch of each sound separately? For the interpretation of these phenomena Euler supposed, when a multitude of sounds are produced by a variety of musical instruments (such as those which occur in the orchestra of our theatres), that since all the instruments sounding must necessarily be placed in a position and situation at different distances from the ear, and also that since the velocity of sounds in such cases may be considered uniform, the membrane of the tympanum must be struck by the undulation of the air from each instrument at different minute intervals of times, and giving rise to the sensation and perception of each and every sound impinged on it in succession. Duhamel has investigated the same problem under another supposition. He is of opinion that the membrane of the ear is affected by the combination of all the forces or pulses of sound without their interfering with each other; and this combined pulse has the power of producing the physiological effect of all the different pulses together, in the same manner as if they were heard separately (as supposed by Eüler), and thus we become conscious of the whole number of sounds at once. This is assumed to take place on the principle of what is denominated the superposition of small motions. Phenomena of this kind may be observed in the vibratory movement of musical strings, and also by what is seen to take place when stones are thrown in thick succession into smooth water and the waves they severally produce are seen to pass on each other without interference. Now both or either of the above-mentioned hypotheses may possibly account for the phenomena in question. However, the simplest, if not the most correct, solution seems to be that of Eüler; but a minute analysis and discussion of their investigations would be unsuited to a brief paper on this subject.

It is, however, remarkable that those who have made aural surgery their study have directed so little attention to the science of acoustics, which obviously ought to form, as a preliminary qualification, the basis of aural physiology and pathology. The absence of this knowledge appears to account for the difficulty and doubt which have existed respecting the causes and seat of tinnitus aurium, as well as for many other acoustic errors, and it has given rise to the vague ideas respecting the definition of the symptoms of which this particular malady consists. It would doubtless repay any aurist who has the time and ability to read the papers already referred to, since they prove how much labor and acumen have been bestowed on the subject; and, with regard to the theory of vibrating membranes, the perusal of the papers of Poisson, Eüler, Riccati, and Biot, will be interesting, if not practically useful, to those who study aural maladies. In further confirmation of the views here expressed respecting the

absence of acoustic knowledge amongst aurists, it is only necessary to remark the differences of opinion which exist on the functions of one or two particular organs—such, for example, as those of the Eustachian tube and the ossicles of the tympanum. Thus, we find that Saunders entertained the opinion that when the Eustachian tube is obstructed, "the air included in the cavity of the tympanum, incapable of yielding in any other way than by condensation, counterbalances the pulse exerted by surrounding bodies." Moncke remarks that this hypothesis is entirely opposed to the laws of physics, since no displacement of air is necessary in the propagation of an impulse of sound. Henle has compared the use of the Eustachian tube to the apertures in the sounding-board of the violin, and supposes that this tube serves to increase the intensity of sound in the ear. Itard was of this opinion, and illustrated his views by remarking the effects of closing the aperture of the soldier's drum. This is again disputed by Müller, who found that on stopping the hole in the drum, the intensity of sound was scarcely diminished. The most general and rational idea appears to be that the Eustachian tube prevents the air from being confined on every side in the tympanum, and thus tends to diminish the action of the membrana tympani in the transmission of sounds; and also that it allows the free exudation from the mucous membrane, which is assisted in its transmission by means of vibritile cilia that are found on the surface of the mucous membrane. Again, Toynbee was of opinion that the disruption of the chain of bones lessens the power of hearing in an imperceptible degree; but the unsoundness of this opinion has been established by the experiments of Müller, and it has also been refuted by Weber and Dr. Jago, and we know it to be contrary to acoustic experience when we compare the difference in the intensity of sound during its transmission through air and solids. Some have ascribed deafness to an enlargement of the tonsils, and also to certain conditions of the throat; but since the Eustachian tube (according to Dr. Jago) is always closed except in the act of deglutition, these organs can have only a remote effect on the internal organs of audition—except, indeed, in cases of scarlet or typhoid fever and measles, which so frequently produce deafness of greater or less intensity. Dr. Jago has experienced in his own person the inconvenience of an open Eustachian tube, and the phenomena attendant on this state of the tube must be very instructive to those who study the pathology of the ear. It is well known that we are able to place the aperture of the Eustachian tube under voluntary contraction and that we can either condense or rarify the air in the typanum. This is effected by closing the nostrils and mouth while the act of inspiration or expiration is produced; however, this experiment must be done with care, since a degree of deafness often prevails during a short interval after the experiment has been performed. Saunders was of opinion that, from the situation of the cavity of the tympanum, it was incapable of surgical manipulation; and

although Kramer has overcome this difficulty, it does not appear that any great amount of good has been derived from his method of reaching it by the Eustachian tube, or at least it has been proved that very little benefit has been hitherto obtained by either the injection of liquids or vapors.

Bearing on this point, we may remember the case of Joseph Hall, who, under Dr. Turnbull's care, lost his life very suddenly by the injection of cold air through the nostrils. In this case the air was transferred from a cylinder, into which it had been condensed, by means of a syringe. Mr. Savage, on giving evidence at the inquest on Hall, said he considered that the cold air injected into the Eustachian tube was the cause of death, and not apoplexy, as was then suggested. Mr. Liston appears to have entertained the same view. Saunders estimated that at least one-third of the cases of deafness depend on derangements of the internal ear; and moreover he thought that the symptoms, such as noises in the head like the murmuring of water or the rustling of leaves, were produced by some change in the labyrinth. We know that the nerves of sight and hearing can reproduce the sensations of light and sound when irrtated, although neither light nor sound is present as an exciting cause. It is in this well-known property with which these special nerves are endowed that we have this key to forming a true diagnosis of tinnitus aurium. *Lancet.*

ANATOMY, PHYSIOLOGY AND PATHOLOGY.

New Discovery in Comparative Anatomy.

It is known to our readers that a division of mammalia has been established on the history of their dentition. Thus some, the Cetacea and Bruta, never shed their first teeth, while the rest go through the same changes as man. Thus we have Monophyodonts, or animals which have but one set of teeth, and Diphyodonts, or animals which have two sets.

Now Mr. Flower, the conservator of the Museum of the Royal College of Surgeons, tells us that the Marsupial, or pouched animals, such as the opossum and kangaroo, stand intermediately between these two great classes, for in them is traceable the first steps towards a double set of teeth, the representative of the deciduous set being confined to a single tooth, a milk molar, which is succeeded by the anterior premolar on each side in both jaws. None of the other permanent teeth have any predecessors, though perhaps some trace of their follicular stage might be found at a very early period of their development.

This is not unlikely, since it is known that in some instances, for example, in a few Rodentia, the milk teeth are shed *in utero.*

This opinion, however, is merely hypothetical; actual observation never having detected any traces of deciduous teeth in Marsupials. It is a little remarkable that the deciduous tooth alone developed in these tribes of animals, is usually the most persistent in typical Diphyodonts and in man, viz: the posterior milk molar replaced by the posterior premolar.—*American Journal of Dental Science.*

Cases of Circumscribed Crude Tubercle in Bone and Muscle: By THOMAS ANNANDALE, F. R. S. Edin., Lecturer on Surgery, Assistant-Surgeon Royal Infirmary.

THE pathological conditions met with in the two following cases are of such rarity that an account of them appears to me to be worthy of record.

CASE 1.—*Deposit of Crude Tubercle in the Shaft of the Tibia.*—On the 28th of June, 1866, I was asked to meet in consultation Dr. Burgess, of Balfron, in regard to a case requiring amputation of the leg. The patient, a delicate girl, æt. 22, had suffered for ten years from strumous sores in different parts of her body, which, however, were not healed.

Three months ago, a swelling formed over the anterior and inner aspect of her right tibia, at a point corresponding to the lower part of its middle third. This swelling was at first firm to the feel, and connected with the bone, but it gradually became, softer, the skin over it ulcerated, and exposed the surface of the bone soft and roughened. Diffuse inflammation and suppuration attacked the soft textures of the whole leg and foot, and a considerable portion of these textures became destroyed, leaving large granulating sores, which discharged profusedly. The patient began to suffer intense pain in the bone, and begged that the limb might be removed, or something done, to give her relief.

On examining the leg, I found that the skin and cellular tissue on the outer side of the foot and leg had disappeared, and left a large unhealthy granulating sore, the edges of which were undermined for some distance. On the anterior aspect of the leg, at the situation of the original swelling, there was another granulating sore the size of a five-shilling piece. At the bottom of this ulcer the bone lay exposed, its surface being vascular, soft, and having numerous small osseous spicula springing from it. The patient had also an enlargement of the right lobe of her liver, which was not, however, at the time causing her any distress.

In consultation, it was decided that the limb ought to be removed; and this decision having been told the patient, she at once consented, and I accordingly proceeded to remove the limb at the knee-joint after Mr. Carden's method.

A week after the operation the patient's strength and general

condition had improved, and she continued to do well until the end of July, when ascites came on, and proved fatal on the 4th of August.

On making a post-mortem examination, Dr. Burgess found that the enlargement of the liver depended upon circumscribed deposits of a yellowish opaque substance. Some of this he sent me, and I found it to be of the same nature as that which was found in the tibia, the pathology of which will now be described.

Dissection of the limb removed.—The soft textures of the whole leg and foot were more or less infiltrated with pus. The knee and ankle-joints were healthy.

The tibia was enlarged at the lower part of its middle third and upper part of its lower third. About the centre of this enlargement, on its anterior and inner aspects, there was an exposed and roughened surface of bone the size of a five-shilling-piece. Some portions of this surface were covered with fine granulations, others had small spicula of bone springing from them. The surrounding periosteum was thickened and vascular and softer than natural.

At the outer side of the bone, but on the same level, there was a circumscribed collection of crude tubercle the size of a small filbert, lying immediately under the periosteum. The tubercle was firm in consistence, and presented no appearance of softening, but on carefully removing it, the bone on which it rested was soft and more porous than usual.

The fibula was slightly thickened at the corresponding point, but there was no breach of its surface.

A fine section having been made through the tibia in its longitudinal direction, the following appearances presented themselves:—In the interior of the bone, at a point corresponding to the affected external portion, there was a circumscribed deposit of yellow crude tubercle. The deposit showed no symptoms of softening—was about one inch and a half in length—was surrounded by a white and soft membrane, and completely filled up the medullary canal of the bone. The cancellated texture had disappeared at the point of the deposit, the tubercle having, as it were, taken its place. The outer tables of the bone were thickened for some distance above and below the deposit. The external ulceration of the bone had only destroyed one half of the thickness of its outer table, and did not, therefore, communicate directly with the medullary canal or tubercle. Microscopic examination of the deposit showed imperfect and shrivelled cells, granules and oil globules.

Remarks.—The history and progress of this case, and the appearances found on dissection, all, I think, warrant the conclusion that the disease was tubercular in its nature.

Tubercle, whether circumscribed or infiltrated, when occurring in connection with bone, is usually met with in the cancellated texture of spongy bones, or in the articular extremities of long bones—very rarely in the shafts of long bones.

Mr. Hewett has recorded a case which resembled the one just related in many points. In Mr. Hewett's case, the femur was the bone affected.

A matter of practical interest in connexion with this case was the severity and extent of the secondary affections of the soft textures of the limb, although, apparently, there was no direct communication between these tissues and the diseased bone. The results in this case are only confirmatory of the following pa$\frac{g}{e}$age which occurs in Drs. Jones and Sieveking's article on Tubercle of Bone:—"The adjoining soft parts are often extensively involved, and secondary effects produced, which do not at first sight appear connected with the original malady."—*Edinburgh Medical Journal*

A Case of the so-called Ephidrosis Cruenta, or Bloody Sweat; with Remarks: By McCall Anderson, M. D.

This was the case of a young lady, about 15 years of age, who, in connection with defective and irregular menstruation (she commenced menstruating at the age of 8), suffered from attacks of hæmorrhage from the skin, from oval or round erythematous patches situated symmetrically on the face, arms, chest, and legs. The outbreaks occurred very suddenly, generally, without premonition, and usually about 11 A.M. Sometimes the patient called out, "Oh! I feel a place on my arm;" and, although the part was exposed immediately, the erythematous patch had formed, the cuticle appeared to have melted away, and a complete dew of blood was detected. With the exception of the menstrual derangement and the cutaneous phenomena, this young lady appeared to be in the most perfect health; but she had rather an excitable disposition. The treatment adopted at Dr. Anderson's suggestion, consisted in the use of aloes and iron pills, the hot mustard hipbath, and the application of leeches to the insides of the thighs whenever there was any menstrual show. She also continued the use of Fowler's solution, which she had been taking before he was consulted; and within a month the cutaneous phenomena had entirely disappeared, and the catamenial discharge was more profuse, though not up to the mark. When last heard of, about a year after the time, she continued well. Several cases, related by different observers, and presenting somewhat analogous features, were afterwards detailed; and also cases in which the disease had no connection with menstruation, and occurred in infants and adult males. From these the following conclusions were drawn. 1. Discharges of blood from the skin, apart from wounds, abrasions, ulcers, and the like, are exceedingly rare. 2. In some cases, such discharges are preceded by the development of oval or round patches of erythematous inflammation; in others, by the eruption of crops of vesicles; while, in a third class of cases, the hæmorrhage came from the follicles without

any intervening eruption. 3. The disease occurs most frequently in females, and in connection with amenorrhœa or defective menstruation, being, in fact, a species of vicarious menstruation. 4. That such is its invariable pathology, nor disproved by the fact that it has been known to occur in infants and in adult males. 5. The treatment by means of nourishing diet, stimulants, and tonics, in the supposition that the discharge is due to debility and deterioration of the blood, is unsuitable in the majority of cases. 6. On the other hand, an opposite line of treatment, and especially the abstraction of blood, local or general, or both, is much more likely to prove serviceable. 7. When the disease occurs in the female in connection with anomalies of menstruation, it must be corrected by the usual means.—*British Medical Journal.*

New Researches on the Cardiac Circulation of Animals.

Dr. Judée has just published a pamphlet on this subject. He shows that in frogs what is, by common consent, called first movement, is compounded of the contraction of the auricular portion and the dilatation of the ventricle; that the second is formed by the contraction of the ventricle and the dilatation, *per contra*, of the two auricles with which the heart of this batrachian is provided. In the second part of the book, relying not only on his own experiments on frogs, but on those made on horses by MM. Chauveau and Marey, M. Judée stated that what these physiologists have taken for the commencement of the first movement, or systole, was nothing but the end of the second, or diastole, of the heart. In other words, that the systole of the auricle does not form part of the systole of the ventricle, but of its diastole; so that, in fact, in the horse, at least, the cardiac revolution does not commence, as is generally supposed, by the systole of the heart, but by its diastole. When M. Judée compares this cardiac revolution to a measurement in three movements, he is led to admit: 1st. That the first movement or great silence cosresponds to the dilatation of the ventricle. 2d. That the second and third movements are formed by the sounds of the heart separated one from the other by the short silence, during which the ventricle contracts itself.

On the Cause of the Premature Decay of Permanent Teeth.

At a meeting of the Western Medical and Surgical Society of London, Dr. Martyn read a paper on this subject. The author's view is, "that teeth prematurely decay because they are faulty in structure, faulty in a too porous and fragile enamel (often marked by a chalky appearance) and dentine, and, their other structures

being of no better quality, they yield more or less early to the wear and exposure to which they are subject. The defects of the structure, he believes, are not due to delicacy of health—want of vital force, so to speak—but really to insufficient use during the formative process or development of the teeth. Human teeth are intended to grind grain, but in civilized life, from the cradle upwards, they have really little of their natural work to do; but cookery does it for them. A crust of bread is nearly the chief *pièce de résistance* put to table. There is enough, doubtless, of tough meat, but this does not give grinding work. The supporting structures of the teeth—viz., the alveolar process—suffer in a like degree from insufficient use. This is shown in any mouth from which a grinder has been removed. The opposing tooth soon projects from its bed into the space of the lost tooth; next its fangs become exposed, the tooth loosens, and ultimately drops out, or it may be that caries attacks the parts unsheltered by enamel, and the tooth is lost. What happens is, that the alveolar process connected with the unopposed tooth, losing its natural stimulus—grinding pressure— becomes absorbed, its lining periosteal membrane degenerates, probably becomes spongy, and so forces the tooth from its bed. The author has endeavored for some time to carry his views into practice, and has selected the navy biscuit as a suitable article of diet in the place of bread."—*Med. Times and Gaz.*

MEDICAL CHEMISTRY AND THERAPEUTICS.

COLLATED BY WM. HUTSON FORD, M. D., PROF. MEDICAL CHEMISTRY. NEW ORLEANS SCHOOL OF MEDICINE.

Relation of Ozone to Cholera.

FROM the experiments which have been made since 1853 by the Hydrometric Commissioner of Lyons, it would appear that the atmosphere of this town is devoid of ozone. The results more recently arrived at by the officials of the Imperial Observatory, point to the same fact. The observations conducted by these workers have not yet been published in full. Meanwhile, Mr. Fournet gives the conclusions arrived at by his resumed observations at Lyons and the suburbs, with the co-operation of MM. Lambert and Rassinien. While ozone was very abundant at Sauvage, on the heights of Terarae, a range of hills separating the basins of the Loire and Rhone, traces were barely perceptible once or twice a month at Lyons. In connection with the above fact, it is well known, says the *Chemical News*, that is has been often maintained that the arrival of cholera was coincident with the disappearance of ozone in the air. The example of Lyons does not well agree with this assertion; this city is not subject to

cholera, and at the same time its atmosphere is always deprived of *oxygen*. We must therefore suppose that the good people of Lyons have acquired the power of living in an atmosphere of *nitrogen*, a faculty certainly possessed by no other community that we are aware of. In using the word *oxygen*, so carelessly, we must admit, in charity, that the editor of the *News* is not fully impressed with the wide and marked difference which in many respects stands between these two of the three allotropic forms of oxygen.

Those who advocate the idea that the absence of ozone from the atmosphere, is a prime factor in the causation of cholera, by no means claim that ozonic deficiency or absence is the only such factor. Assuming the meteorological determinations to be correct, and that the air of Lyons is notably deficient in ozone, it, by no means, follows that cholera must prevail. The deficiency of ozone simply allows the peculiar action of the oxidizable products of animal and vegetable decomposition, upon the economy of man, to be exerted;—and if white ozone be absent, foul smells are not poured out abundantly from its ordinary sources, in large cities, or if, when poured out, they are dissipated and evected by wind both during day and night, of course their effect upon the body, in lowering the oxygenation of the blood, will not be exerted. Simple absence of ozone signifies but little. Ozone can never be detected in the interior of houses, in sleeping apartments or parlors, for it is continually absorbed by surfaces admitting of oxidation, and neutralized by the cutaneous and pulmonary transpiration of the inmates. Nevertheless, persons leading very secluded lives, or confined by physical or other inability to the interior of a simple chamber or cell, are by no means necessarily attacked by cholera. They only evince the absence from their blood of a healthy quantity of ærial stimulant, in pallid cheeks, spiritless movement and intestinal torpor. Were the efficient causes of cholera, constantly present, an absence of ozone would of course precipitate the disease upon a community subjected to them, but this must first be shown to be the case at Lyons, before the fact, as stated, acquires any epidemiological importance.

[W. H. F.]

Occlusion of Gases in Metals.

THE porosity of graphite, of earthenware, of marble, and the action of those substances on gases and fluids, may be regarded as fairly understood. A new kind of porosity in metals is imagined, of a greater degree of minuteness than the porosity of graphite and earthenware; this is an intermocular porosity, due entirely to dilatation. At low temperatures neither platinum nor iron admits any passage of gas; but by the expansive agency of heat, the pores are opened, and these metals admit of, encourage

indeed, the diffusion of gases. "Such a species of porosity," says Graham, "if it exists, may well be expected to throw a light on the distance of solid molecules at elevated temperatures when gases introduce themselves. The experiments were essentially of the following character: A vacuum was produced in a platinum tube placed within a porcelain tube charged with hydrogen; this tube was raised to a red heat, and the dense metal then became permeable to hydrogen. The same result was obtained with iron.

The passage of a gas through a colloid septum is preceded by a condensation of the gas in the substance of the septum. "Is," asks Mr. Graham, "a plate of ignited platinum capable, then, of condensing and liquefying hydrogen gas?" By an ingenious arrangement the experiment was made, and the result proved that platinum exhibited a new property—*the power to absorb hydrogen at a high heat, and to retain that gas at a temperature under redness for an indefinite time.* It may be allowable to speak of this phenomenon as a power to *occlude* (to shut up) hydrogen, and of the result as the *occlusion* of hydrogen by platinum. Experiments were made with many other metals, and their powers of occlusion carefully determined; that of *iron* alone can be mentioned in this paper. This was determined by first exhausting iron of any gases held within its pores by exposing it to a high temperature, and then cooling it gradually in hydrogen gas; the metal absorbed and retained this gas after cooling. The iron experimented on was capable of holding 0·46 volume of hydrogen; but when the same specimen of iron was charged with carbonic oxide gas in the same manner, it was found to be capable of taking up *at a low red heat and holding when cold* 4·15 *volumes of carbonic oxide gas.* This discovery cannot fail to to have a bearing on the important process of steel manufacture.

Pursuing this extraordinary line of inquiry, and obtaining at every step new, confirmatory and beautiful results, it was resolved to ascertain if the masses of matter obtained from the atmosphere—meteoric stones—and which bear evidence of having been at a very high temperature, gave any indication of the kind of atmosphere in which they were formed

A slice from the meteoric iron of Lenarto, which was analysed by Wehrle, and found to be of sp. gr. 7·79, and to consist of iron. 90·883, nickel 8·450, cobalt 0·665, and copper 0·002, was obtained. This was made the subject of a careful experiment, and the Lenarto iron yielded 2·85 times its volume of gas, of which 86 per cent. nearly was hydrogen.

"Hydrogen has been recognized," says Mr. Graham, "in the spectrum-analysis of the fixed stars by Messrs. Huggins and Miller. The same gas constitutes, according to the wide researches of Father Secch, the principal element of a numerous class, of which *a* Lyræ is the type. The iron of Lenarto has no doubt come from such an atmosphere, in which hydrogen greatly prevailed. *This meteoric may be looked upon as holding within it, and bearing to us, hydrogen of the stars.*

"It has been found difficult on trial to impregnate malleable iron with more than an equal volume of hydrogen, under the pressure of our atmosphere. Now the meteoric iron examined gave up about three times that amount without being fully exhausted. The inference is, therefore, that the meteorite has been extruded from a dense atmosphere of hydrogen gas, for which we must look beyond the light cometary matter floating about within the limits of the solar system."—*Science Review.*

Discovery of a New General Anæsthetic.

Dr. Richardson takes with him to the meeting of the British Association for the Advancement of Science a new general anæsthetic. The fluid is a bichloride of methylene, its composition being on the new formula CH_2Cl_2. The substance has an odor as sweet as that of chloroform, but it boils at 88° Fahr., whereas chloroform, the terchloride of methylene, requires a temperature of 142° for boiling. The bichloride of methylene rapidly and easily narcotises animals to perfect anæsthesia. It causes scarcely any excitement, and recovery is most perfect. In action, it seems to combine the properties of chloroform and of ether, but it is more readily administered than either, and its effects are more permanent. In a future number we shall give a more detailed account of all the facts regarding this substance. We notice it now as forming part of the report on the methyl series about to be presented by Dr. Richardson to the British Association, in continuation of his former reports on the amyl and the ethyl compounds.—*Medical Times and Gazette.*

A New Styptic and Adhesive Fluid: Styptic Colloid.

Dr. B. W. Richardson, of local anesthesia fame, has for some years been investigating the subject of styptic and anti-septic applications. His experiments have resulted in the formation of a compound of ether, alcohol, tannin and gun-cotton, which is thus described: "In the first steps of the operation the tannin, rendered as pure as can be, is treated with absolute alcohol, and is made to digest in the alcohol for several days. Then the ether, also absolute, is added, until the whole of the thick alcoholic mixture is rendered quite fluid. Next the colloid substance (xyloidine or gun-cotton) is put in until it ceases readily to dissolve. For the sake of its very agreeable odor, a little tincture of benzoin is finally admixed.

"The solution is now ready for use. It can be applied directly with a brush, or, mixed with equal quantities of ether, it can be

applied in the form of spray. In order to give to the fluid a short name by which it may be known, I have called it 'Styptic Colloid.'"

When applied to an open surface of the body, the ether and alcohol evaporate, the blood or secretion of the surface permeates the cotton and tannin, and the tannin, acting on the albumen, forms a tethery membrane, which completely protects the subjacent surface. Dr. Richardson confidently recommends, from experience, the application of the Styptic Colloid in capillary and other hæmorrhage, in open cancer and on suppurating or decomposing surfaces; in compound fractures, the injury may be made as much as possible a simple fracture; in simple wounds, amputations, etc. The mode of using the solution is first to apply a thin coating to the part, then to place upon it a layer of cotton, saturated with the fluid and finally cover the whole with one or more layers of the solution, taking care that each covering be dry before the next is applied. To remove the dressing, a mixture of ether and alcohol may be used or proof spirit warmed a little above the temperature of the body. Water, cold or warm, will not dissolve the styptic, and should not be used. If necessary or desirable, various substances may be combined with the styptic, such as creasote, carbolic acid, quinia, iodine, iodide of cadmium, morphia, cantharidin, and chloride of zinc.—*Pacific Medical and Surgical Journal.*

Notes on Crystals deposited from the Brain: By S. W. Moore. (*Chemical News.*)

In the month of June this year (1867,) Mr. Stuart, curator of the Museum, St. Thomas's Hospital, called my attention to the fact that he had noticed in some of the brain preparations a deposit of crystals, which appeared to him to present a very beautiful and unusual appearance; he thought, perhaps, that I might like to examine them chemically, which I have done, thinking the results may lead to facts which will ultimately throw some light on the now very imperfectly understood compounds of the brain.

On inspecting a jar containing the deposit, there was found a very thick layer of crystals at the bottom, which, upon further inspection, were seen to have the form of rhombic plates; over these, however, there was another of what might have been mistaken for mucous or brain matter, and on examination with the microscope they presented a very beautiful appearance, two or three distinct forms being apparent, viz.—*a.* small stars formed as globular bodies (of which there are seven, six aggregated one round,) a little smaller than the male human blood corpuscle. *b.* resembling two pieces of tape, one in a semicircle, the other stretched across its diameter, the ends on both sides being twisted.

c. This form was one piece only, its ends being brought round upon one another, and twisted.

These strange forms suggested the idea that some albuminous principle might probably have united itself with a crystalline substance, and have caused these structures to become manifest in the attempt to crystallize; they gave, under the influence of parolized light, a distinct cross, and what seems to confirm the supposition of their being of colloid is that, upon testing, nitrogen was developed. They are saponified by KHO, and dissolved by hot absolute alcohol, and separate out on cooling in a granular form, and are of course insoluble in water. On presenting these various tests to the crystals which were so densely crowded at the bottom of the vessel, some very interesting data were collected, agreeing with the tests for no other hitherto mentioned brain compound.

In appearance the crystals were waxy, they were tasteless and insoluble in water; on ignition they burned away with a bright smoky flame, leaving no residue whatever. The tests for N. P. and S., were carefully applied, but no result; the substance was precipitable from its ethereal solution by alcohol; its melting was 103° C., and on combustion gave the following percentage:—Carbon 43.79, Hydrogen = 8.99 and Oxygen 48.12. From this an empirical formula may be calculated having the following constitution, $C_7 H_{16} O_6$ or $C_{12} H_{26} O_{10}$, the latter perhaps, giving a calculated result nearer the found one, viz. Carbon 43.64, Hydrogen 7.88 and Oxygen 48.48.

From the results obtained above we may safely conclude that the substance is not cholesterine, its high percentage of oxygen, and its low melting point, excluding it from that supposition. It is equally impossible that it should be cerebric acid, because it is perfectly neutral and contains no nitrogen: the absence of phosphorus proves it cannot be oleophosphoric acid. On exposing to the air the spirits from which the crystals had been taken, a fresh crop formed; these, however, were only crystalline plates of cholesterine.—*Canada Medical Journal.*

Remarkable Case of Chronic Strychnia Poisoning by "Battle's Vermin Killer:" Recovery after one Month's Illness. Under the care of Dr. HENRY THOMPSON, Middlesex Hospital.

J. D., aged 49, was admitted into the Middlesex Hospital on December 22, 1866. She had been weak and nervous for some six weeks, with loss of appetite, sleeplessness, delirium, at times raving, and loss of memory, daily increasing. Her mind became quite upset; and on December 3 she took a sixpenny packet of "Battle's Vermin Killer," with the idea of putting an end to her sufferings. Almost immediately after swallowing the poison, she felt a "hot burning taste" in her mouth, followed shortly after-

wards by twitching of the whole body, increasing in intensity, and producing the feeling as if "torn in pieces." This was accompanied by screaming, over which, she said, she had no control whatever. These symptoms lasted with great severity for about half an hour, when she became insensible, in which state she remained for six or eight hours. On coming to herself again, she experienced the same burning sensation in her mouth, with a feeling of great thrist, and found that she could not open her mouth; there was, however, no difficulty in swallowing. There were severe "spasms" over the whole body, but chiefly in the lower extremities, aggravated to a great extent, or produced by any one touching her; she experienced a feeling that something dreadful was going to happen to her. From this time the symptoms seemed gradually to subside; and by next evening she could open her mouth slightly, but was not able to protrude her tongue. The spasms became less and less severe, and by December 8 she had only occasional "tremblings;" but was extremely weak, had frightful dreams, and her eyesight was hazy. In fact, up to the day of her admisssion, she continued to have attacks of "tremblings," pain, and stiffness in her temporo-maxillary articulations, admitting only of partial opening of the mouth, insommolence, bad dreams, loss of appetite, and great prostration, confining her closely to bed.

On admission, she was in a state of general prostration, with weakness and trembling of the lower extremities, and incapable of supporting the weight of the body. She had occasional pain in the temporo-maxillary articulations, and could only open the mouth to a slight extent. There was great thirst; the appetite was very poor; the tongue slightly furred. She passed urine and motions without difficulty. Pulse 102, weak, faint systomic murmur was heard at the apex of the heart. Pills composed of three grains of extract of conium and five grains of powdered camphor were administered; and on December 25 she was able to stand erect, and was free to a much greater extent of the pains in the temporo-maxillary articulations. She was then put upon iron and quinine in addition to the hemlock.

From this time she rapidly improved, and, with the exception of an apthous patch on the tongue and a mass of bleeding piles accompanied by diarrœa, her symptoms continued uninterruptedly to abate; and on January 3, exactly one month after taking the poison, she was reported entirely free from twitchings, pains in the extremities or jaws, and now able to open her mouth freely. She was discharged on January 15, well.—*British Medical Jonrnal.*

The Coagulation of Blood.

With a degree of moral courage which we fear few of our savants would venture to show, Dr. Richardson has withdrawn his theory

of the coagulation of the blood. At the meeting of the British Association he announced that recent research showed the ammonia hypothesis no longer tenable, and he therefore begged to withdraw it. Experiments which he had lately made on the influence of extremes of heat and cold on albuminous and fibrinous fluids, have shown to him that the process of coagulation in these fluids is due to a communication of calorie force to them, and to a physical or molecular change, determined by the condition of their constituent water. Thus all substances which possess the power of holding blood in the fluid condition, through fixed alkalies, various soluble salts, and volatile alkali, in every respect act after the manner of cold. They render latent so much heat, and in the absence of that the fibrine remains fluid. In the opposite sense, every substance which combines with water and produces condensation, with liberation of heat, quickens coagulation. The direct effects of heat and cold illustrate the same truth, and upon these facts turn the differences of coagulation in animals of different temperatures. Those of our philosophers who work for reputation alone (not a few), may think a recantation like that of Dr. Richardson's rather a perilous proceeding. To some small minds it may seem so. We venture to believe, however, that the step Dr. Richardson has taken redounds in the highest manner to his credit, and we believe that it will only add another honor to a name which has always been associated with that honest pursuit of science which results from an earnest desire to discover truth. *Popular Science Review.*

Chemical Atoms.

Prof. Kerule, of Ghent, thus defends the atomic theory of chemical combination :—

"The question whether atoms exist or not has but little significance in a chemical point of view; its discussion belongs rather to the metaphysics. In chemistry we have only to decide whether the assumption of atoms is an hypothesis adapted to the explanation of chemical phenomena. More especially have we to consider the question, whether a further development of the atomic hypothesis promises to advance our knowledge of the mechanism of chemical phenomena.

"I have no hesitation in saying that, from a philosophical point of view, I do not believe in the actual existence of atoms taking the word in its literal significance of indivisible particles of matter. I rather expect that we shall some day find, for what we now call atoms, a mathematico-mechanical explanation, which will render an account of atomic weight, of atomicity, and of numerous other properties of the so-called atoms. As a chemist, however, I regard the assumption of atoms, not only as advisable, but as absolutely necessary in chemistry. I will even go further, and declare my belief that *chemical atoms exist*, provided

the term be understood to denote those particles of matter which undergo no further division in chemical metamorphoses. Should the progress of science lead to a theory of the constitution of chemical atoms—important as such a knowledge might be for the general philosophy of matter—it would make but little alteration in chemistry itself. The chemical atom will always remain the chemical unit; and for especially chemical considerations, we may always start from the constitutions of atoms, and avail ourselves of the simplified expression thus obtained, that is to say, of the atomic hypothesis. We may, in fact, adopt the view of Dumas and of Faraday, that whether matter be atomic or not, thus much is certain, that, granting it to be atomic, it would appear as it now does."

Danger of Ether Spray.

Under the above heading, Mr. G. A. Brown, House-surgeon to the Sheffield Infirmary, records the following occurrence in the *Lancet*, as a caution to those who may be using the ether spray while obtaining light from a naked flame:—

"I was called, at half-past twelve A. M., to a patient in this infirmary, suffering from malignant disease of the mouth, which had commenced to bleed very freely. There was general oozing, but no point that I could tie; and before resorting to other measures, I was anxious to try the effect of Dr. Richardson's ether spray in arresting the bleeding. A candle was held by a nurse at a distance of about two feet from the patient's mouth, and I had played upon the part for, possibly, a minute. As the hæmorrhage appeared to have ceased, I was about to withdraw the jet, when the vapour suddenly ignited, and a scene presented itself that neither I nor any that witnessed it are likely soon to forget. The man appeared literally to vomit forth fire, while his head seemed, and, indeed, was, completely enveloped in brilliant flame. The fire was, however, rapidly extinguished; and, although the patient was terribly alarmed and fainted, no futher harm resulted to him than his having his face slightly scorched. Fortunately, the man was seated in the centre of a large ward. Had he been near curtains, or other inflammable material, the result might have been lamentably different; or had it happened to a nervous patient, the shock might have been such as to have been followed by most serious consequences.

[We cannot account for Mr. Brown's carelessness in bringing a naked flame near his patient.—Ed. C. and D.]

Quinine in the Treatment of Croup.

Dr. D. W. Williams, of Liverpool, communicates the following

to the *British Medical Journal*, on the use of quinine in croup:—

In 1862, I examined the tracheæ of three children, who died of croup, and found the mucous membrane covered with a yellowish white substance like gruel, muco-puriform matter, the membrane itself being reddened. A crow quill could have been passed down the tube without touching the substance which lined its walls. There was nothing like blocking, nothing like tubes of false membranes (lymph), yet my little patient died of slow suffocation.

While thinking of these cases, one of my own children took croup; the usual remedies were adopted, but in a few hours the result could be but too easily foretold; she was slowly choking. The restlessness and anxiety so well known was great: and I asked myself these questions: "Is this child dying from inflammation and blocking of the tracheæ, or from a blood-poison, which manifests itself in local inflammation and spasm?" Inclining to the latter opinion, I gave her a grain of quinine, a large dose for a child twelve months old. In twenty minutes, the relief was surprising; the restlessness, etc., abated. In an hour, a second grain was given, and the child fell asleep, and made an excellent recovery—the quinine being continued in smaller doses. Since this, I have treated several cases in the same way, with similar result. In bronchitis and pneumonia also I find quinine of great value when the distress is out of proportion to the amount of disease.—*Phil. Med. and Surg. Rep.*

American Medical Association—Prize Essays for 1868.

THE American Medical Association offers two prizes of *One Hundred Dollars* each, for the best two original essays upon subjects of professional interest; the Committee reserving the right to reject all unless deemed fully worthy.

Competitors for these prizes must forward their essays to Dr. CHARLES WOODWARD, Cincinnati, Ohio, free of expense, on or before the first of April, 1868.

Each essay must be accompanied by a sealed note containing the author's name and address, and on this sealed packet must be inscribed some sentiment, motto or device, corresponding to a like sentiment, motto or device on the essay.

CHARLES WOODWARD, Chairman,
W. W. DAUSON,
E. B. STEVENS,
ROBERTS BARTHOLOW,
P. S. CONNOR,
} *Committee.*

Medical journals throughout the country are requested to copy.

EDITORIAL AND MISCELLANEOUS.

Salutatory.

THE November number of the "Southern Journal of the Medical Sciences, informed its readers that terms of consolidation had been concluded between its editorial corps and that of the "New Orleans Medical and Surgical Journal." The Journal which we now offer is the first issue of this combination. We ask of our professional brethren that it may receive from them that degree of attention, countenance and support which may be considered commensurate with its deserts.

While the patrons of this Medical periodical (now the only one of this city) may feel assured of the cordial and vigorous co-operation of all parties who were interested in either or both the Journals merged in this, we trust they, themselves will not forget that our chief encouragement is to be derived from them,—their aid is the only talisman of our complete success. We therefore appeal directly and most earnestly to the whole Profession of the South, to support us with their contributions and their influence. It is not with any sectional feelings in the political sense of the term, that we have directed the appeal more pointedly to the Medical Profession of the South. All Southern practitioners know that climatic influences and differences in pursuits and habits, stamp the diseases of their section with such strongly marked characteristics, that Southern medicine must widely differ both as a science and an art, from Northern medicine. Therefore there is not only a propriety in the universality with which Southern practitioners look to the medical periodicals of their own section for information relating to those manifestations of disease with which they are more often required to contend, but such literature and information is to them a necessity. Our highest ambition will be to supply the practical wants of the Profession in this regard. That we may achieve this result in the most satisfactory and successful manner, it is important that the experience of many observers should be collated. We therefore request that the observations of medical practitioners in every part of our wide field of labor be communicated to us. The motto which appears upon our title page illustrates our faith in the value of accumulated observation and research in any department of inquiry. "*Tota philosophia frugifera et fructuosa, nec ulla pars ejus inculta ac deserta sit.*"

We have every reason to feel assured that the co-laborers of our predecessors will continue to aid us in sustaining the interest and value of this Journal, and trust likewise to include more names upon our list of contributors both at home and abroad.

We bespeak from the medical press of the country a continuance of the civilities and courtesies invariably shown to the late medical journals of this city.

S. M. B.

Yellow Fever in New Orleans.

In the next number of our Journal we propose to give an extended notice of the recent epidemic of Yellow Fever in New Orleans. It is a subject of too serious import to be lightly treated, and we do no more at this moment than present to our readers in tabular form that which we now believe to be a faithful record of the mortality from this and all other diseases since its earliest appearance in June last.

We think that we shall be able to establish several points in relation to Yellow Fever, by observation this season. 1st. That the disease can and does originate in New Orleans. 2d. That persons born and reared here (so-called "Creoles") can and do have the disease, even in its most aggravated form. 3d. That an attack of the disease affords at least as thorough protection as is afforded man by attacks of variola, pertussis, rubeola, etc. 4th. That so-called "specific" or "heroic" plans of treatment of the disease are unreasonable.

We mention these points in advance, that our professional brethren may have their attention directed to the matter, and we shall be glad to receive any remarks, *pro* or *con*, they may see fit to tender us between this time and the first day of March next. In fact we especially invite the members of the profession of this city, as well as of any and all other points in the South, at which Yellow Fever may have appeared this season, to give us the results of their observation and experience. The observations of numbers when conscientiously rendered, can be made of great value, and now that we have passed through the ordeal of practice, it is a solemn duty we owe society and ourselves to truthfully record what we have seen. The present generation of medical men must realize the truism, that to the mass of recorded observations in the past, it is overwhelmingly indebted; indeed, that from observations in the aggregate only can useful deductions be drawn; and that it will be a gross dereliction of duty for us to fail now to record what we see in our time. Accordingly we earnestly appeal to the physicians of Louisiana, Texas, Mississippi, Alabama, Tennessee and Florida to furnish us by letter or otherwise the results of their observation, as to the rise, progress and treatment of yellow fever at such places as it may have appeared during the year 1867.

Daily Reports of Yellow Fever Cases for October.

Cases.	Cases.	Cases.	Cases.	Cases.
1st.....54	8th.....64	15th.....28	22d.....18	29th..... 9
2d.....56	9th.....56	16th.....31	23d.....19	30th.....13
3d 75	10th.....49	17th.....34	24th.....17	31st 9
4th 59	11th.....46	18th.....35	25th 12	
5th 60	12th.....32	19th.....35	26th.....10	
6th 58	13th.....33	20th.....31	27th.....16	
7th 50	14th.....39	21st 13	28th.....11	

Monthly Mortality, City of New Orleans.

Total of all diseases for month of			June,	1867	561
"	"	"	July,	"	551
"	"	"	August,	"	1039
"	"	"	Sept.,	"	2498
"	"	"	October	"	1942
"	"	"	Nov.,	"	959
"	"	for three first weeks in December			546
Total					8096

Mortality by Yellow Fever.

1867.	No.	Week ending	No.
June, total	3	October 6	431
Week ending		" 13	355
July 7	1	" 20	235
" 14	3	" 27	120
" 21	2	Nov'ber 3	72
" 28	5	" 10	38
Aug. 4	9	" 17	23
" 11	14	" 24	17
" 18	26	Dec'ber 1	11
" 25	77	" 8	11
Sept. 1	129	" 15	4
" 8	245	" 22	4
" 15	358		
" 22	418		
" 29	489		
Total mortality			3093

To Subscribers, Agents, etc.

THE manner in which the circular issued on assuming control of the *Consolidated Journal* has been received by certain parties, calls for an explanation on the following points, which seem to have been misunderstood:

1st. The rendition of the accounts to 1st January, 1869. This was done in order that every subscriber might date from the commencement of the volume, and thus very materially lessen the probability of annoying mistakes.

2d. The mistakes in the accounts rendered.

These were anticipated, and in the circular above mentioned, subscribers were requested to rectify their accounts insomuch as in consolidating two journals, each with many small accounts, such mistakes were unavoidable, and it certainly was not expected that any display of feeling on the part of those recognizing such mistakes would be noted.

Subscribers who have paid for vol. 2 of the *Southern Journal of Medical Sciences*, will find enclosed in this number a bill for three-quarters ($\frac{3}{4}$) of a year, $4 50, amount due to January, 1869; and those who have paid to July, 1868, on the *Medical and Surgical*

Journal will find a bill for one-half year, $3 00. Attention is particularly called to these accounts so that we may be enabled to fully carry out the intention as above stated of dating all subscriptions now on the list of either journal from the commencement of the volume.

Hereafter, unless special orders to the contrary are received, all new subscriptions will be considered as commencing with the volume, being issued at the time of their receipt.

The attention of agents and others is particularly called to that portion of the permanent notices which refers to clubs: and insomuch as the necessity of directing to each party individually, and keeping a separate account for each, in a great measure counterbalances the benefit derived from such combinations, it will be insisted hereafter that each club designate a member to whom all the journals shall be directed, and whose name alone will appear on the books.

Our patrons are again reminded that our columns are open for all information which may be of interest to the profession, statistical or otherwise, and that where the request is made, as high rates will be paid for accepted material as are paid by any similar publication in the country.—W. S. M.

Annual Statistics of the Charity Hospital.

By the politeness of Mr. Duvigneaud, Asst. Clerk, who has at great pains compiled the statistics from the books of the Hospital, we have been furnished with a copy of the annual report for the *Journal*, in season to lay it before our readers. It will be found not only interesting for present perusal, but valuable as a matter of record for future reference.

The accompanying parallel drawn between the late epidemic of yellow fever and that of 1853 confirms the prevailing impression of the comparative mildness of the former. That the mortality in hospital should much exceed that in private practice is due to a combination of causes among which may be mentioned the fact that many individuals are admitted almost or quite *in articulo mortis*, being strangers, ignorant of the disease, and having no one to give the early attention so requisite in such rapid maladies as yellow fever and cholera. It should also be remarked that the class of persons seeking gratuitous medical relief consists greatly of those who are illy prepared, by previous diseases and habits of dissipation, to withstand a highly acute and prostrating disease.

We intend, in a future number, to present a general report of the late epidemic, based upon observations in private practice and cases coming within the scope of the Howard Association, as well as hospital records, both civil and military.—S. S. H.

REPORT OF DISEASES, *from January 1st, 1867, to December 31st, 1867, treated in Charity Hospital, New Orleans, La.*

DIAGNOSIS.	No. of Patients.	No. Died.	No. Discharged.	DIAGNOSIS.	No. of Patients.	No. Died.	No. Discharged.
Abscess	63	7	53	Cephalalgia	10	.....	9
Albuminuria	28	6	20	Chorea	2	.....	2
Anthrax	5	2	3	Cirrhosis of Liver	11	4	5
Ankylosis	4	2	2	Coryza	1	.....	1
Ascites	17	8	7	Catarrh	25	1	23
Asthenia	7	5	2	Colica	16	.....	14
Anæmia	24	5	16	" Pictonum	9	.....	8
Asthma	9	1	7	Cataract	8	.....	6
Arthritis	3	.....	2	Cholera	94	70	14
Abortion	4	.....	4	" Morbus	13	.....	12
Aneurism of Aorta	8	2	6	" Infantum	1	1	
" Popliteal	1	.....	1	Cancrum Oris	1	.....	1
Amaurosis	2	.....	2	Cancer	12	5	7
Addison's Disease	1	.....	1	" of Breast	1	.....	1
Atrophy of Eye	1	.....	1	" of Rectum	2	1	1
Amputation of Leg	3	.....	3	" of Stomach	1	.....	1
" of Toe	3	.....	3	" of Uterus	6	2	3
" port'n Foot	1	.....	1	Caries of Meta'sal Bones	1	.....	1
" of Finger	8	.....	8	" of Cranium	1	.....	1
Apoplexy	8	7	1	" of Vertebræ	1	.....	1
Amenorrhœa	3	.....	3	Catalepsy	1		
Anasarca	3	1		Choroiditis	1		
Artificial Pupil	1	.....		Convulsions	2	2	
Bronchitis, Acute	73	8	62	Cystitis	2	.....	2
" Chronic	14	2	11	Congestive Chill	15	13	2
Bubo, Syphilitic	19	.....	18	Concussion of Spine	1		
" Sympathetic	6	.....	6	Coup-de-Soleil	10	1	8
Balanitis	6	.....	6	Debility	103	11	87
Brain, Compression of	4	3	1	Diarrhœa, Acute	271	23	223
" Concussion of	10	.....	8	" Chronic	88	35	50
" Softening of	6	4		Dysentery, Chronic	80	30	40
" Inflammation of	2	2		" Acute	179	35	128
" Congestion of	3	3		Dropsy	7	4	1
" Cancer of	1	1		Dyspepsia	27	.....	26
Bunion	2	.....	2	Diphtheria	2	.....	2
Burn	41	7	30	Dementia	4	.....	4
Bladder, Paralysis of	1	.....	1	Duodenitis	1	.....	1
Cornea, Opacity of	9	.....	9	Dysmenorrhœa	4	.....	3
Conjunctivitis	16	.....	14	Dipsomania	4	.....	4
" Granular	32	.....	32	Dog-bite	1	.....	1
Corneitis	16	.....	14	Delirium Tremens	59	8	51
Contusion	86	.....	76	Dislocation of Femur	1	.....	1
Constipation	22	.....	21	" of Humerus	5	.....	5
Condyloma	2	.....	2	" of Ulna	1	.....	1
Chilblain	1	.....	1	" of Clavicle	1	.....	1
Coxalgia	2	.....	1	" of Thumb	1		

REPORT OF DISEASES—Continued.

DIAGNOSIS.	No. of Patients.	No. Died.	No. Discharged.	DIAGNOSIS.	No. of Patients.	No. Died.	No. Discharged.
Dislocation of Finger	1			Granulations	6		4
" of Wrist	1			Gravel	2		2
Eczema	15		12	Glaucoma	2		2
Erysipelas	27	2	20	Heart, Disease of	34	16	17
Epilepsy	12	4	7	Hæmorrhoids	26		26
Enteritis	11	6	5	Hepatitis	19	3	15
Endocarditis	1		1	Hemiplegia	21	1	15
Erythema	2		2	Hæmicrania	8		8
Epithelioma	6	2	4	Hernia	6	1	5
Epidydimitis	2		2	" Inguinal	3		3
Emphysema	4	1	2	Herpes Zoster	3		3
Erethismus	1		1	Hysteria	7		7
Entropion	1		1	Hydrocele	8		8
Epistaxis	1		1	Hypochondriasis	2		2
Epulis	1		1	Hæmatemesis	1		1
Fever, Intermittent	2225	13	2092	Hæmoptysis	4		2
" Remittent	296	28	263	Housemaid's Knee	1		1
" Malarial	298	31	244	Hæmaturia	1		1
" Typhoid	39	18	19	Iritis	36		25
" Congestive	43	35	7	Intemperance	129	8	119
" Continued	11	2	9	Icterus	16	3	13
" Dengue	3		3	Insanity	9		9
" Yellow	1493	672	808	Imbecility	6		3
Fissure in Ano	1		1	Irritable Uterus	1		1
Fistula-in-Ano	19		17	Indigestion	7		7
" Vesico Vaginal	5		5	Inflammation	4		3
Frost-bite	1			" of Scrotum	1		1
Fracture of Tibia, Fib'a	43	3	9	Incontinence of Urine	4		3
" of Tibia	11		11	Inanition	2	2	
" Radius & Ulna	4	1		Invaginatus	1	1	
" of Humerus	3		2	Leucorrhœa	11		10
" of In. Maxill'y	7		6	Liver, Fatty Degen'n of	4	4	
" of Clavicle	14		14	Lumbago	7		6
" of Femur	17		16	Laryngitis	7		7
" of Fibula	4		4	Lungs, Congestion of	1	1	
" of Rib	3		3	Lens, Trau. Absorp. of	1		1
" of Patella	2		2	Menorrhagia	4		4
" of Skull	2	1		Mania-a-potu	7		6
" of Finger	1		1	Malingerer	1		1
" of Radius	3		3	Meningitis	3	2	
" of Front. Bone	1		1	Moribund	3	3	
" of Ulna	2		2	Necrosis	15	3	12
" of Os Calcis	1		1	Neuralgia	23		23
" of Elbow	1		1	Neuroma	1		1
Furunculus	7		6	Nephritis	1		1
Gonorrhœa	84		82	Nihil	152		136
Gleet	3		3	Orchitis	33		33
Gastritis	11	1	10	Ophthalmia	57		49

REPORT OF DISEASES—Continued.

DIAGNOSIS.	No. of Patients.	No. Died.	No. Discharged.
Œdema	6	1	4
Otorrhœa	3		3
Ostitis	1		1
Œsophagitis	1		1
Ozæna	2		2
Otitis	2		2
Old Age	12	8	2
Onanism	2		2
Phthisis Pulmonalis	332	144	127
Pleurisy	27	2	23
Poisoned by Camphene	1		1
" by Lead	8		8
" by Pois'd Oak	1		1
" by Phosphorus	1	1	
Paralysis	29	3	20
Pneumonia	86	30	50
" Pleuro	13	5	8
Pericarditis	4	1	3
Pytalism	5		5
Periostitis	6		6
Plemphigus	1		1
Paronychia	18		17
Phlebitis	2		2
Parturition	75		61
Pregnancy	20		13
Pleurodynia	4		4
Paraplegia	10	3	3
Phlegmasia Dolens	3		3
Peritonitis	4	2	2
Porrigo	1		1
Paraphymosis	1		1
Pharyngitis	2		2
Prostatitis	4	1	3
Phlegmymenitis	1		1
Post Partum Convales'e	1		1
Purpura	2		2
Parotitis	1		1
Pyæmia	4	3	1
Pertussis	1		1
Prostatic Calculi	1	1	
Prolopsus Ani	3		3
Rheumatism, Acute	301	2	281
" Chronic	63	2	55
Regurgitation, Mitral	6	3	3
" Aortic	2		2
Rupia	2		2
Syphilis, Primary	271		241
" Secondary	125	2	111
" Tertiary	23	2	18
Sprain	30		28
Stricture of Urethra	35	1	30
" Rectum	2		2
Scabies	24		23
Synovitis	3		3
Stethæmia	1	1	
Synechia	2		2
Strangury	2		2
Sclerotitis	3		2
Stomatitis	3		3
Sarcina Ventriculi	1	1	
Sciatica	9		8
Scurvy	10	1	8
Splenitis	2		2
Staphyloma	4		2
Strabismus	1		1
Scrofula	12		5
Stone in Bladder	2		2
Sarcocele	1		1
Spine, Compression of	1	1	
" Injury of	4	2	2
Tonsillitis	8		8
Tuberculosis	22	5	12
Tetanus	7	4	3
Testicle, Perforation of	1		1
Tumor	7	1	5
Tabes Mesenterica	1	1	
Trismus Nascentium	1	1	
Tænia Solium	1		
Trichiasis	1		
Trachoma	4		
Ulcer	299	1	254
Ulceration of Bowels	1	1	
Uterus, Prolapsus of	4		
" Retroversion of	3		3
" Retroflexion of	1		1
Urethritis	1		1
Varicosed Veins	4		4
Varioloid	2		2
Variola	8		8
Vertigo	1		
Varicocele	2		2
Wound, Contused	66	1	59
" Gunshot	36	3	30
" Incised	71	1	69
" Punctured	18		18
" Lacerated	32		32
" Penetrating	3		3
Warts, Syphilitic	1		1

REPORT OF NATIVITY OF PATIENTS, *from January 1st, 1867, to December 31st, 1867.*

FOREIGN COUNTRIES.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November.	December.	TOTAL.
Ireland	350	229	206	178	185	217	237	337	.....	261	259	249	3079
Germany	57	43	46	29	40	48	79	159	11	131	69	67	951
Prussia	13	18	13	12	16	14	23	57	6	51	34	21	360
England	57	33	26	19	23	17	33	40	7	58	42	31	455
France	30	14	24	19	10	20	52	83	6	42	44	25	434
Switzerland	9	6	5	7	6	5	10	17	1	21	10	10	123
Austria	3	6	5	6	3	4	10	17	2	20	15	7	121
Scotland	12	11	6	5	4	5	9	21	5	11	22	10	144
Sweden	4	2	8	1	2	3	5	7	.....	8	5	4	59
Spain	5	5	2	1	4	2	49	33	.....	23	13	8	162
Denmark	3	7	3	1	2	2	3	8	.....	10	5	7	59
Norway	2	2	3	.....	3	2	.....	8	3	1	2	2	29
Belgium	3	.....	2	.....	.....	1	3	3	8	4	4	4	30
Russia	1	2	.....	.....	.....	3	4	8	.....	11	2	4	53
Portugal	1	.....	1	.....	.....	2	2	1	.....	1	2	1	12
Italy	1	3	1	5	7	3	16	12	.....	16	13	5	103
Wales	1	4	.....	.....	1	.....	.....	4	1	2	3	.....	24
China	1	.....	.....	.....	.....	.....	.....	.....	371	.....	1	2	4
Canada East	6	4	1	8	1	1	7	8	183	7	5	1	60
Canada West	7	.....	.....	.....	.....	4	6	5	88	4	2	1	35
Mexico	6	1	3	3	1	1	4	5	76	5	6	1	43
West Indies	1	.....	1	1	3	.....	1	4	70	5	3	2	27
East Indies	.....	.....	.....	.....	.....	.....	.....	.....	17	.....	.....	.....	1
Newfoundland	1	.....	.....	1	.....	.....	1	.....	25	1	2	.....	8
NewBrunswick	4	2	2	3	3	1	1	.....	28	3	2	.....	26
Nova Scotia	1	1	1	1	.....	.....	2	1	10	1	2	4	14
Brazil	.....	1	.....	.....	.....	.....	.....	.....	17	.....	1	.....	2
Netherlands	.....	1	.....	2	.....	.....	.....	.....	8	.....	.....	.....	4
Greece	.....	.....	1	1	2	.....	1	2	4	4	1	1	16
Holland	.....	.....	.....	2	.....	.....	4	6	6	4	4	1	28
Cape G. Hope	1	.....	.....	.....	.....	.....	.....	.....	18	.....	.....	.....	1
P. E. Island	1	.....	.....	.....	.....	.....	.....	1	1	1	.....	.....	3
West'n Islands	1	.....	.....	.....	.....	.....	.....	.....	21	.....	.....	.....	1
Sandwich "	.....	.....	.....	.....	.....	.....	.....	1	9	.....	.....	.....	2
N. Rrovidence	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Africa	.....	.....	.....	.....	.....	.....	1	1	1	1	.....	.....	4
Atlantic Ocean	1	1	.....	1	.....	.....	.....	1	1	.....	.....	.....	5
Chili	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Unknown	1	.....	1	.....	.....	1	3	7	3	7	1	4	28
Total	584	396	361	306	316	356	567	858	1007	714	574	473	6512

NATIVITY OF PATIENTS—Continued.

UNITED STATES	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Louisiana	31	26	34	35	31	36	48	84	77	64	50	31	547
New York	41	24	19	19	22	14	26	48	55	41	32	22	363
Pennsylvania	8	7	8	9	6	8	13	30	21	15	13	16	154
Virginia	4	4	6	8	3	5	5	8	10	8	6	10	77
Kentucky	11	4	5	6	9	3	6	11	17	12	9	7	100
Maryland	6	6	3	3	2	3	3	11	9	8	4	6	64
Massachusetts	7	7	1	4	4	2	9	9	12	8	4	6	73
Ohio	13	5	2	3	4	4	6	11	13	8	10	6	85
Mississippi	7	6	2	3	3	1	5	7	10	7	5	9	65
Missouri	9	4	5	3	3	5	13	10	9	8	3	2	74
Illinois	3	1	3	5	3	.....	1	2	4	5	1	4	32
Georgia	3	4	5	4	3	2	1	4	3	1	5	4	39
Florida	.....	1	.....	.....	.....	.....	.....	1	2	3	.....	.....	7
Indiana	5	.....	2	2	1	1	4	3	2	2	1	2	25
Tennessee	8	6	7	4	4	5	6	3	9	5	5	5	67
Maine	7	5	6	5	5	4	6	8	8	8	5	4	71
N. Hampshire	.....	.....	.....	.....	.....	.....	.....	1	3	.....	.....	1	5
Alabama	5	5	.....	1	1	3	6	7	9	6	6	7	56
Texas	4	2	.....	2	1	1	2	5	.....	3	4	3	27
N. Carolina	6	1	.....	1	.....	.....	2	4	2	3	3	1	23
S. Carolina	5	2	.....	.....	6	2	3	4	3	2	3	.....	30
Connecticut	1	1	2	1	.....	1	1	.....	4	1	2	1	15
Delaware	1	2	.....	.....	1	.....	.....	.....	3	1	3	.....	11
Michigan	1	1	2	.....	.....	.....	.....	.....	4	1	.....	.....	9
Arkansas	1	.....	.....	.....	1	.....	1	.....	.....	2	.....	.....	5
New Jersey	1	1	2	.....	2	1	3	4	5	2	2	6	29
Vermont	.....	3	.....	1	.....	2	1	.....	1	2	1	.....	11
Rhode Island	.....	3	1	2	4	2	.....	3	2	1	1	.....	19
Iowa	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	2
New Mexico	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
D. of Columbia	.....	.....	1	.....	1	.....	.....	2	4	3	.....	1	12
Wisconsin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2
Total	188	131	116	121	121	103	171	280	301	231	179	156	2100

RECAPITULATION.

Jan. 1st, 1867—Number of Patients remaining in Hospital..... 723
Dec. 31st, 1867— " " admitted during the year 8612
——— 9335

Dec. 31st, 1867—Number of Patients discharged during the year..... 7260
" " " deceased " " 1438
" " " remaining in Hospital..... 637
——— 9335

REPORT OF BIRTHS FOR THE YEAR 1867.

Males, 30; Females, 45; Total, 75; of which there were 2 twins and 5 still-born.

REPORT OF NATIVITY OF PATIENTS FOR 1867.

Foreigners, 6484; Americans, 2100; Unknown, 28; Total, 8612.

ALBERT DUVIGNEAUD, A. Clerk.

Report of Deaths in the City of New Orleans, from the 1st day of October to the 15th day of December, 1867.

Males.....2115. Females.....1118. Not stated.....60. Total.....3293.

DISEASES.		DISEASES.		DISEASES.	
Abscess of Liver	4	Dysentery, Acute	6	Inflammation of Vagina	1
" of Head	1	" Chronic	12	" of Womb	1
Asthenia	1	Diptheria	9	Inanition	6
Aneurism	1	Enlargement of Liver	1	Intemperance	5
" of Aorta	1	Epilepsy	4	Janudice	3
Anæmia	1	Entero Colitis	8	Kidneys, Disease of	1
Angina	1	Erysipelas	1	Killed Accidentally	11
" Pectoris	1	Elephantiasis	1	Killed or Murdered	6
Atrophia	3	Fever	7	Liver, Disease of	1
Apoplexy	19	" Bilious	14	" Fatty Degen'on of	1
Asthma	4	" Congestive	98	Lockjaw	45
Bronchitis	19	" Pernicious	85	Malpractice	1
Burns or Scalds	10	" Intermittent	22	Marasmus, Adult	13
Bright's Disease	1	" Brain	6	" Infantile	39
Cancer	6	" Nervous	2	Meningitis	10
" of Stomach	1	" Puerperal	5	Old Age	16
" of Womb	3	" Remittent	43	Paralysis	10
" of Abdomen	1	" Scarlet	1	Peritonitis	8
Carbuncle	1	" Malignant	7	Pericarditis	1
Catarrh	7	" Typhoid	38	Pleurisy	2
Chicken Pox	1	" Typhus	9	Pneumonia	60
Cholera	395	" Yellow	1193	" Pleuro	6
" Infantum	37	Fracture	1	Premature Birth	17
" Morbus	20	" of Skull	1	Pyemia	3
Cirrhosis of Liver	1	Gangrene of Bowels	1	Purulent Absorption	1
Colic	1	" Senile	1	Purpura	1
" Bilious	1	Gastro Enteritis	50	Rheumatism	5
Colitis	1	Hæmorrhage	2	Scrofula	4
Congestion	2	" from Lungs	1	Softening of Brain	8
" of the Brain	56	" fm. Stomach	4	Stillborn	139
" of the Bowels	2	" from Navel	3	Syphilis	4
" of the Lungs	5	" from Womb	3	" Tertiary	1
Constipation of Bowels	1	Heart, Disease of	15	Stomach, Disease of	1
Consumption	152	" " Valvular	1	Suffocation	1
Convulsions	7	Hepatitis	5	Suicide	2
" Adult	4	Hydrocephalus	4	Skin Disease	1
" Infantile	89	Hernia	2	Teething	30
" Puerperal	1	Hooping Cough	2	Tris. Nascentium	59
Cyanosis	1	Hysteria	1	Tumor	1
Croup	8	Imperforate Anus	1	Tabes Mesenterica	2
Debility	26	Inflammation of Endo'm	1	Tuberculosis	1
" Infantile	2	" of Bladder	1	Urine, Suppression of	1
Delirium Tremens	4	" of Bowels	11	Ulceration	1
Diarrhœa	23	" of Brain	8	" of Leg	1
" Acute	6	" of Larynx	1	Unknown	9
" Chronic	26	" of Kidneys	2	Worms	3
Dropsy	11	" of Liver	5	Wounds	1
" in the Abdomen	2	" of Lungs	3	" Gunshot	4
Drowned	13	" of Stomach	2	Not stated	22
Dysentery	37	" of Throat	2		

Total.....3293

AGES.		AGES.		AGES.	
Under 1 year	529	25 to 30 years	344	80 to 90 years	22
1 to 2 years	163	30 to 40 years	484	90 to 100 years	4
2 to 5 years	209	40 to 50 years	299	100 and upwards	2
5 to 10 years	216	50 to 60 years	209	Unknown	75
10 to 15 years	101	60 to 70 years	114		
15 to 20 years	108	70 to 80 years	43	Total	3293
20 to 25 years	311				

White,....2679 Black,....386 Mulattoes,....165 Not stated,.... 63 Total,....3293

Compiled from Monthly Reports of Board of Health, by L. H. Cohen, M. D.

In consequence of the appearance of the new Journal on the 1st January, we are obliged to close the mortuary report on December the 15th, and shall hereafter make the quarter date from the 15th to the 15th.

It will be perceived that one death from "mal-practice" is reported. On October 22d, on Liberty street, between Gravier and Perdido; Annie Farrell, aged 10 days, died in consequence of "Mal-practice of a so-called Midwife;" the certificate is signed by Dr. Mercier.

In the New Orleans Times, next day, this was reported, but no further notice taken of the matter. In our humble opinion, there was a great neglect of duty on the part of the Coroner, in not having a thorough investigation of the affair, and in failing to prosecute the accused to the full extent of the law. When a case so flagrant is permitted to pass unnoticed, it is a tacit permission on the part of the authorities, for the perpetration of murder; we cannot therefore be surprised that the terrible mortality among newly-born infants remains unchecked. We alluded at some length to this subject a few months ago, and are sorry to say that up to the present time there is a very marked increase in the number of infants who have been consigned to their graves without name or record, but on the mortuary lists. L. H. C.

IN MEMORIAM.

Dr. John D. Foster. It is a sad privilege, which we are called from time to time to perform—to pause in our career of toil and duty for the purpose of dropping a tear of affection and regret over the graves of our departed brethren: And as we cast our eye over the surface of an extended acquaintance, and witness one and another, here and there, sinking noiselessly into the embrace of the cold dark waves of death, we cannot but be profoundly impressed with the bitterness of individual life, and the tremendous mystery which shrouds human existence.

With melancholy feelings do we take the pen to record the fact that our friend, Dr. John D. Foster, of our city, has been called away from the scenes of time. His decease occurred in October last . . . . the result of an attack of acute dysentery. He was born in Nashville, Tenn., in the year 1826, graduated at the University of Pennsylvania in 1847; remained at Blockly Hospital until 1850, when he removed to New Orleans, since which time he had been actively engaged in the practice of his profession. He was for two years (1858—'60) House-Surgeon of the Charity Hospital, the duties of which responsible position he discharged to the satisfaction of all. At the time of his death, he was a member of the New Orleans Board of Health.

Dr. Foster was an intelligent and successful physician, enjoy-

ing the confidence and respect both of his professional brethren and of the community at large. A warm hearted whole-souled gentleman, a true and firm friend, a genial companion. Ever faithful in the performance of duty, and an active and energetic enterprising worker,—his death is the removal of a useful member of society—his place may not easily be filled.

NECROLOGICAL RECORD.

We have on this occasion to chronicle the death of more than one bright and shining light of the Medical profession, extinguished in the darkness of the tomb. During the past season, our whole section of country has been devastated in a remarkable manner, by disease; and we were compelled not only to witness much sorrow, suffering and distress, but many of our professional brethren themselves, were prostrated by the unsparing pestilence while endeavoring to combat it in others. And alas! how many of them have fallen victims to the destroyer, in consequence of their devotion. These noble self-sacrificing heroes need no more extended epitaph—indeed none nobler could be written—than:

DIED AT THE POST OF DUTY.

Dr. Peck, a comparative stranger in our midst, was one of the victims of the yellow fever, in this city during the past summer. He was, we believe, a native of Alabama—having very recently taken up his abode in New Orleans. During the rage of the epidemic, he faithfully remained, performing his professional duties. Being one of the Health officers of the city, and besides a visiting physician to the Charity Hospital, he was peculiarly exposed to the poison. And it was not long before it performed its fearful work upon him, and death claimed him as his own. A young man of much promise, a cultivated mind and a gentlemanly bearing, procured for him many friends in his new home. But all to no purpose—none could avert the cruel shaft— and his short career is ended.

We take the liberty of giving professional publicity to the following extract from a letter of an esteemed subscriber writing from Brenham, Texas, Nov. 25th, 1867. * * * "The terrible epidemic of Yellow Fever made its appearance amongst the citizens of our village on the 1st October, and raged violently and fatally until about the 10th instant. The population of our town is estimated at three thousand. Of these two-thirds at least fled at the beginning. Of those who remained, one hundred and fifty at least fell victims of the disease. Two of our physicians (out of four) fell victims to it, Dr. John P. Key, a practitioner of twenty-six years, fell early in the action, and Dr. J. L. Watkins, after

braving the entire epidemic almost alone (for the other two physicians were sick) died next to the very last one."

A similar sad tale may be told of many other towns in Texas and Louisiana. The proportion of deaths among the members of our profession has probably been larger than that of any other class. Among the first to fall in New Iberia, was the accomplished Dr. MATTINGLY, who, though comparatively a new comer, had already made many friends. And among the last victims in the same little town, fell another old and eminent practitioner and accomplished gentlemen, the lamented HILLIARD. Worn out with the hard labor of the whole epidemic season, having with a self-sacrificing devotion which knew no faltering, gone through the fearful ordeal, as all began to hope, with impunity—having seen each member of his family successively prostrated but happily recovering, he was at last stricken down, and sudden desolation fell like a pall over his former happy household, as over many others in that afflicted community.

In Galveston, Texas, Dr. W. H. GANTT, fell a victim to the yellow fever epidemic, on the 8th September. He was a native St. Louis, but for some years had held an enviable position in the Profession of the former place. He had recently been made Professor of Surgery, in the Medical College of Texas, and is spoken of as having been a fine writer, and speaker, a popular Professor and an accomplished gentleman.

In the Nashville Journal of Medicine and Surgery, we notice a tribute of respect to the memory of Dr. Sam'l B. Cunningham, of Jonesboro, Tenn., for nearly fifty years a practising physician of that place.

Dr. John H. Polin died July 6th, 1867, in Springfield, Ky., in the 68th year of his age. He is described as a "model scholar, physician, moralist, Christian—a model man every way."

Dr. Robt. Watts, Professor of Anatomy, College of Physicians and Surgeons, New York, died in that city on September 8th.

Dr. Edward Mackey, a distinguished physician, died at Buffalo, July 7th. He was a graduate of the College of Physicians, Dublin, and a Fellow of the Royal College of Physicians and Surgeons, Edinburgh.

The venerable Dr. James Jackson, of Boston, departed this life last August, in the 90th year of his age. He was long the acknowledged head of the profession in New England, and for twenty-four years held a professorship in Harvard. He was uniuniversally beloved and respected.

Dr. J. Mason Warren, of Boston, is also dead. He was an eminent surgeon, as were both his father and grandfather before him. He was 56 years of age.

In England too, and in France, death has been busy in the midst of the profession.

Sir WILLIAM LAWRENCE, F. R. S., one of the most celebrated surgeons of Great Britain, whose name is illnstrious the world over, died at his residenee in Whitehall Place, July 5th, 1867, in the 84th year of his age. He had been ereated a baronet but a few months before his death.

MICHAEL FARADAY, the great English ehemist, who by his labors added so mueh to the noble seienee of whieh he was sueh a distinguished light, is no more. He died at Hampton Court, aged 74 years. Though dead, he yet lives, and will live for generations to eome, in his grand scientifie achievements.

VELPEAU, Alfred Armand Louise Marie, the renowned surgeon of Paris, is also dead. He was eleeted to the ehair of elinieal surgery in 1935, and eontinued in it to the last day of his life. He was 72 years of age.

RAYER, another one of the most eminent members of the Paris faeulty, died in that eity on the 10th September, of eerebral hæmorrhage, aged 74.

TROUSSEAU, too, died June 23d, "after months of eruel suffering from eaneer of the stomaeh." Also CIVIALE, who made sueh minute and thorough investigation of the subjeet of ealeuli—in the same month, aged 75.

To this already long list we must add the names of JOBERT DE LAMBALLE, GIBERT, FOLLIN, CHARTOULE and BOULEY.

All these names belong to the world—no lengthy notiee is neeessary. We mourn that they are taken from among us, and that mankind is deprived of the further advantage of their talents and genius. They have gone—peaee to their ashes! but their works remain behind, to tell to posterity that they have not lived in vain.

REVIEWS.

A Contribution to the History of the Hip-Joint Operations Performed during the late Civil War; being the Statistics of twenty cases of Amputations and thirteen of Resections at this Articulation in the Southern Service: By PAUL F. EVE, M. D., Professor of Surgery in the University of Nashville. Philadelphia: 1867.

THIS pamphlet, extraeted from the Transactions of the American Medieal Association, is a very important addition to our statistieal knowledge, and adds yet another to the many important serviees rendered to the Profession by its distingnished author.

Of the twenty eases of amputation four were deeidedly sueeessful and one doubtful. This gives a ratio of sueeess which has never been equalled, if ever approximated, in any other service.

Three of the successful cases were primary operations, and one secondary.

Five of the thirteen cases of rssection, are reported as successful. Two of these were primary, two secondary, and one intermediate (six hours).

A Practical Treatise on Shock, after Surgical Operations and Injuries, with especial Reference to Shock caused by Railway Accidents: By EDWIN MORRIS, M. D., R. C. S. etc., (exam.) Surgeon to the Spalding Dispensary and Union Infirmary, author of "A Practical Treatise on Neuralgia." J. P. Lippincott & Co., Philadelphia: 1868. Furnished by Messrs. Krull & Dickey, New Orleans.

We have carefully read this little work to see if we could discover any "practical" matter which would justify its publication. Our time has been lost. There is nothing in it but an extremely weak dilution of what may be found with infinitely less expenditure of time and trouble in any of the first-class surgical textbooks. Those interested in the stock of British railroads may perhaps find something "practical" in it; as a large portion of the treatise is taken up in opposing the abuses to which, according to the statements of the author, the Companies of the railroads are often subjected in the way of damages for accidents. These desperate efforts at amplifying special subject into volumes are extremely apt to result in what forcibly reminds one of the elastic bags of the toy-shops so popular now among the children. It is astonishing what large globes can be made of them by merely filling them up with breath and nothing else.

Books and Pamphlets Received.

A Treatise on Therapeutics and Pharmacology. or Materia Medica: by George B. Wood, M. D., Pres. Am. Phil. Soc.; Pres. Col. Phys. Phil.; Em. Prof. etc., etc. Third edition; two vol. pp. 838 and 990. Philadelphia; J. B. Lippincott & Co., 1868.

We have been favored by the author with a copy of the above, sent to us through Messrs. Krull & Dickey, booksellers, of this city. Review of a work so well and favorably known is unnecessary; the style is the same as in the former editions.

Transactions of the Medical Society of the State of Pensylvania, at its eighteenth Annual Session, held at Pittsburg, June, 1867. Fourth Series, Part III, published by the Society; Philadelphia.

A very interesting Prize Essay is contained in this pamphlet; the subject is Ancient Transfusion and Infusion, compared with Modern Transfusion, Infusion and Subcutaneous Injections; by

Jean-Baptiste Ullersperger; it is published in French, and translated into English by Dr. Chas. F. Wittig, of Philadelphia.

Minutes of the proceedings of the Fourteenth Annual Meeting of the Medical Society of the State of North Carolina, held at Tarboro, N. C., 15th May, 1867.

Forty-Second Annual Report of the Massachussetts Charitable Eye and Ear Infirmary. Year ending September 30, 1867.

Proceedings of the Association of Medical Superintendents of American Institutions for the insane. Philadelphia, May, 1867.

List of Exchanges—

London Lancet, London Medical Times and Gazette; Medical Press—Dublin; Medical Quarterly—Dublin; Ophthalmic Review—London; British Medical Journal—London; L'Evénement Médical, L'Union Médicale, Gazette des Hopitaux—Paris; Gazette Médicale de Paris, Archives Générales de Médecine, Journal de Médceine et de Chirurgie Pratiques, Journal de Chimie Médicale, Répertoire Pharmacentique Bouchardet, France Médicale, Gazette Mèdicale de l'Algérie, Gazette Hebdomadaire, Annales d'Hygiène, chez J. B. Baillière, Journal d'Anatomie; Canada Medical Journal; Richmond Medical and Surgical Journal; Buffalo Medical and Surgical Journal; Galveston Medical Journal; Boston Medical and Surgical Journal; Medical and Surgical Reporter—Philadelphia; Western Journal of Medicine—Indianopolis, Ind.; Detroit Review of Medicine and Pharmacy; New York Medical Journal; Atlanta Medical and Surgical Journal; American Journal Medical Sciences; Medical News and Library; Chicago Medical Examiner; Cincinnati Lancet and Observer; St. Louis Medical and Surgical Journal; Medical Record—New York; Braithwaite's Retrospect; Chicago Medical Journal; Pacific Medical and Surgical Journal; Medical Reporter—St. Louis, Mo.; Southern Medical and Surgical Journal—Augusta, Ga.; American Journal of Pharmacy—Philadelphia, Pa.; Dental Cosmos; American Journal of Insanity; Journal of Materia Medica—New Lebanon; Nashville Journal Medicine and Surgery; Druggists' Circular and Chemical Gazette—New York; Medical and Surgical Pioneer—Kansas City; College Physicians—Philadelphia, P.; American Naturalist—Salem, Mass.; American Journal Dental Science—Baltimore, Md.; Quarterly Journal Physyeological Medicine—New York; Texas Medical Journal; Leavenworth Medical Herald; Rankin's Abstract, American republication; Humboldt Medical Archives—St. Louis, Mo.; Chemical News—New York; the Medical Gazette—New York; American Medical Assoeiation (transactions); Biennial Retrospect Medicine and Surgery; Half-yearly Compendium; Am. Journal Sciences and Arts; Michigan University Magazine; De Bows' Review; Dental Register—Cincinnati, O.

THE

NEW ORLEANS

JOURNAL OF MEDICINE.

APRIL, 1868.

ORIGINAL COMMUNICATIONS.

ART. I—*Theory and Treatment of Cholera:* By U. R. MILNER, M. D., of Jefferson City. La.

UPON all questions of medical science, there are two theories. One is hypothetical, or speculative; and the other embraces the true, and immutably established principles of the science, and embodies all that is positively known.

A briefly comparative view of these two theories, one of which I have called hypothetical or speculative, and the other true, is not inappropriate to my subject.

Speculative theory as to the causes, pathology, and treatment of diseases, is worth no more than what is gained by it as an excitant to investigation, and the establishing of such truths as investigation evolves. And the measure of its value practically, is the number of facts which it ultimately establishes; all practice upon speculative theory being empirical, until the hypothesis itself is proven to rest upon the solid foundation of truth; at which point speculative ceases, and positive knowledge, or true theory, becomes the basis of our reasoning, and of our practice.

True theory ignores empiricism in toto. It presumes that no one will venture into the darkness without a candle to give him light at every cautious footstep. And, surely, it is wisdom thus to be provided, for, without light, who knows that he will not stumble and fall. Yet, who would not venture even in the dark

to relieve the sufferings of a fellow-being though he might not possibly know whether the sound he hears be the real voice, or but the echo of the cries of the sufferer.

Nature has a voice, a language; and suffering human nature is truly imploring, and pathetic in her calls for relief. But she can not always be understood. The most intelligent observers, and philanthropists are sometimes deceived in their interpretations of her sounds, and find, too late, that they have but heeded the echo; and, like Don Quixotte, have fought windmills and phantoms, while the subject of their philanthropic efforts has perished for the want of assistance.

But, is not the effort to give relief, if guided by intelligence, though it be a plunge into surging waters, and the darkness be ever so great, a noble one? Who denies that such impulses are of the highest order of soul? We admire the impulse though it be not guided by intelligence. It is divine though the individual moved by it be mad. It is a noble impulse in itself considered, although the philanthropist break his own neck, and the subject of his noble passion perish, even when he might have been saved by the same action guided by the light of knowledge. Action, fruitless, is better than no action at all when life depends upon the issue; for who knows that he will not succeed? The only circumstance in which fruitless action is to be deplored, is when it interferes with another and efficient action which would have been called forth but for the obstruction of a preoccupation of place.

True theory makes its stand-point upon what is certainly known, and its practical value is limited by absolute knowledge. If every thing is known in any given case of disease applicable to its treatment, the individual, possessing the knowledge, can certainly do every thing within human skill for its cure. True theory, therefore, is the sum total of all the facts known in any given case. Facts are its material, and it can not exist without them. It is, therefore, in itself stationary. It is unprogressive. Our children, with scrupulous obedience to the principles of true theory would never know any more than their fathers. The world would be forever jogging along in the old beaten track.

Hypothesis, or speculative theory, however, is ever making

excursions. It ventures upon the confines of darkness; and sometimes plunges the abyss, and amid the wrecking storms of chaos, copes its way in search of facts; and, even when it has been long forgotten, it may at last be seen emerging, like the rising sun, bearing its trophy, its pearl, its sparkling diamond of truth. It then becomes true theory.

Speculative theory is, therefore, experimental, it is the pioneer of discovery, and the grand motive power of progression. With inquisitive curiosity it prys into Nature's arcana, and brings up, from her profoundest depths, inexhaustible stores of knowledge, and wisdom. Moreover, it often forestalls absolute discovery, and seizes upon facts long before they are positively proven to be such, and, in this way becomes as valuable, practicably, to him who acts upon the presumption of its correctness as if it were really established. Again, it is often so strengthened by analogical reasoning, based upon phenomena that do really exist, when our reasoning is in accordance with established physiological principles, as to convince the judgment of its near approximation to the truth, although the truth is not clearly and satisfactorily evolved; and it thus becomes the basis of a tolerably rational practice.

This sort of a yet imperfected theory forms the basis of action in a great many diseases, while in numerous others we have not even a reasonable hypothesis to guide our practice. Among the latter is cholera. As to its causes, pathology, and treatment, we have not yet gathered a sufficient number of facts upon which to establish a true theory. Every thing is yet hypothetical as to this scourge of our race. Any views, therefore, founded upon observation and right reason, which may lead to the evolution of a true theory as to this mysterious and fatal malady, would be hailed by the profession as a God-sent blessing to man.

In contributing the resulting mite of my observations and reasoning upon this disease to the profession, it is not with the presumption that I have founded a true theory of a malady so difficult of comprehension, but with the hope that my condensed views may be of service to those investigating minds, of better endowments, to whose observations, and researches we must

look for the light that shall guide us to the establishing of a true theory.

I propose now, briefly, to take a synthetical view of cholera,—to investigate it in its sporadic form as it now exists among us; and, if I can understand one case, I shall comprehend two, three, or any number (for no disease within my knowledge is more homogeneous than this), and thus, step by step, in the congregation of cases, I shall arrive at the grand climax of its awful dominion, when, with a besom of destruction, it lays waste whole cities and countries.

I had a case the other day. What is its history?

The patient was a watchman, living in a healthy locality and comfortable, with a genial companion to cheer and bless him. He drank cistern water, and was temperate in the use of strong drinks. Aged about thirty; and of tolerable intelligence. He had no organic disease, but was of a slender and delicate form. He had cholera in 1849. I treated him for yellow fever in the epidemic just over; and he had quite recovered his former flesh and strength.

He had diarrhœa two or three days previous to this attack of cholera. This diarrhœa was entirely neglected; and the night before he surrendered early in the morning to true cholera, he watched in the open air, anxious to finish his month. On arriving at home in the morning he was very giddy and sick, and desired coffee. He drank a cup, and at once began to vomit. I saw him at two o'clock, P. M. The matters, vomited and purged, were the true rice-water of epidemic cholera. His cramps in the muscles of the calves and thighs, were excruciating, and the abdominal muscles had the same paroxysmal spasms coming on every few minutes. The bowels seemed to be perfectly empty. The urine was nearly suppressed. The pulse was very feeble, and the sensation to the touch was exactly such as would indicate that the artery was nearly empty of blood. One phenomenon that struck me, in this case, was that the veins of the hands were full, even more turgid than I would have thought they should have been in health; and yet the hands were cold, and the integument at the ends of the fingers had already begun to wrinkle. I observed the same turgidity also in the temporal veins. Up to this stage and observa-

tion, there had been only a moderate perspiration. Later, when the skin poured out water, the veins of the hands shrunk, and disappeared. I gave him calomel, grs. ij, opium, gr. ¼, and the acetate of lead, grs. iij, every two hours, alternating with a stimulant mixture of the aromatic spirits of ammonia, spirits of camphor, chloroform, and mucilage-water; had his legs and arms rubbed with a mixture of the tincture of lobelia, spirits of hartshorn and chloroform; applied mustard and external heat; and finally put a plaster of flies over the stomach and bowels, and one to each calf. He continued dying, however, although the vomiting and purging ceased, and the cramps were much relieved, and expired fifteen hours after I first saw him.

I have now, at this writing, a case of genuine cholera—a negro. Cases spring up here and there, any where, but principally among negroes, and others who live poorly, and are too ignorant to know that their stomach will not digest brickbats if they choose to swallow them. Yet, sometimes, members of clever families take the disease, and like the poor and ignorant, they die.

This patient, however, will get well. Although *his tongue is even yet cold* to my finger, and his lips like the touch of a corpse; I am sure he will get well. He is reacting now, for his bowels not only move less frequently, but the excretion has lost its rice-water character, and is changing to a dark color, showing an evident improvement in the secretions; and the pulse has improved in volume, which shows that sanguification has again commenced; and the voice is not quite so weak and plaintive.

I saw him for the first time forty hours ago. He had then had cholera twelve hours, but he was a remarkably stout young negro. He was working in the city of New Orleans, and drank hydrant water (and I am sure that hydrant water of this locality is very dangerous); took diarrhœa; came home with it, and his wife gave him some bark teas, and helped him a little; but they finally sent for me. I found him with all of the symptoms of genuine Asiatic cholera: a cold skin; rice-water vomitings, and purgings; shrivelled integuments of the ends of the fingers, in the horizontal line; and the usual characteristic cramps of the muscles; pulse ninety, and of that volume and feebleness, which indicate but very little blood in the propelling organ. Tongue slightly

coated, a little inclined to red, but rather dark or purplish, and cold. Respiration was sixteen per minute; voice of the characteristic tone of cholera; eyes sunken; and indeed the man was on the very verge of collapse.

I have already stated that he is reacting. I have given him no opium at all; and I must say, that from what I have seen of the action of opium in cholera, it is incompatible and *highly* injurious. In connection with this remark, I desire to say, that it is not so with cholera morbus. I do not remember that I ever lost a case of cholera morbus, and I do not think that I have ever treated a case without opium in some form.

I have had him upon small doses of calomel, piperine, and quinine, and full doses of chalk and kino, alternating with a stimulant mixture of creasote, and chloroform in peppermint water. I also applied a blister to the bowels, and used rubifacients and heat externally.

Twenty-four hours after the above writing, I find my patient in what is called a typhoid condition. This is simply reaction, and it is a hopeful condition. The bowels have not moved in twelve or fourteen hours; the last action was dark-colored, fœcal in smell, and at the bottom of the vessel there was a dirty-looking matter, which his wife said, as she showed it to me, looked like the scrapings of the guts. His tongue has lost its livid hue, is coated, dry and red. His urine has increased in quantity, and in it there is a floccolent mucous looking matter. Pulse is 105 per minute. He looks very haggard, and is quite listless. I have put him on Wood's turpentine emulsion, and nourishment.

It was not my purpose to report cases. I have alluded to these because they are pretty fair examples of the disease. I have already said that it is a homogeneous disease. It is the same thing wherever we find it. There are, however, about three terminations of the complaint, viz: one is collapse and speedy death; another is reaction with a return to healthy secretions, and speedy recovery; and another is reaction with typhoid condition, and ending in either a rather tedious convalescence, or in coma and death.

If we were to go on piling case upon case, *ad infinitum*, we

should find at last that we had but beaten out a monotonous track of perpetual repetitions. Cholera is nearer the same thing in every individual whom it attacks, than any disease I ever saw, except chill and fever. This is true of the twenty-five or thirty cases I saw and treated in this city last fall and winter; it is true of all the cases I have seen and treated the present fall and winter; and it is true of all the cases I have ever seen. If I were to pick out one of the specific diseases which it resembles most, I should select pernicious fever; and I would say that cholera is a disease *sui generis*, but of the malarial group or species.

I do not mean to say that it is identical with the cause of intermittent, remittent, and pernicious fever; but that in its effects upon the animal body it resembles that cause, as that cause is manifested in pernicious fever, more than any other known cause of disease. Or rather, cholera resembles pernicious fever more than it does any other disease.

When it has broken out in ships, at sea, which left healthy ports with healthy crews, I do not believe the cause has been either the concealment of contagion, or the running into a cholera atmosphere; but that it has originated in those cases upon the vessels themselves. And surely there is often cause enough upon ships to generate cholera, or pernicious fever, or any other fever; and it is quite probable that when they have had cholera, if they had not had it, they would have had pernicious cases, or, ship fever, or something else, and vice versa. I will illustrate my position. The miasm that produces chill and fever, whether it be cryptogamic or inorganic, is specific; and when uninfluenced by other causes, and circumstances, always produces chill and fever. But the play of chemical and vital forces among the molecules of all bodies, now disorganizing, and then reorganizing, is universal; and such chemical and vital motions seem to be necessary for the existence of that wonderful circle of life, and death, of which ourselves, and all other bodies are subjects. So that a poison that would cause cholera, might, by chemical affinities with other bodies, have its nature so changed as to produce some other disease or become wholly inert.

It is not difficult, therefore, to comprehend how a typhous or malarial poison may be changed to a cholera poison. The epi-

demic intensity of either the one or the other, or of cholera, is to be explained upon the same principle of chemical and vital motions; and I do not understand the term "epidemic influence" in any other sense. When a certain cause of disease remains unaffected by stronger affinities for other bodies than it has for the elements of its own composition and inherent nature, it may be supposed to increase in quantity, and influence, until it reaches its ultimate capacity; and then to begin to exhaust itself, and finally to suffer the common fate of all bodies, change to new forms, or decay and death.

Upon this hypothesis we can also understand why diseases are so often changing their original types, being frequently so masked as hardly to be perceived. Sometimes a disease runs out, and the lapse of fifty years may intervene between its death and resurrection.

In my report of cases illustrating the excentric course of morbific influences (Southern Journal of the Medical Sciences, August number 1866), the hypothesis I have assumed is fully illustrated by the three cases reported. One of these was sporadic cholera; another was pernicious fever; and the third was bilious remittent fever, which took a sudden change causing congestion of the chylopoietic viscera, extravasation of blood into the intestinal canal, and finally exfoliation and discharge, per anum, of the epithelial layer of the mucous membrane of the bowels. All of these cases depended, most probably, upon the came cause—malaria, and why was not each the one or the other? Or, why not all three cases of sporadic cholera? or pernicious fever? or bilious remittent fever with the congestion of cholera, and the exfoliation of the epithelium, which is the pathological condition of the mucous membranes in cholera, and which, I assert, is universal, to a greater or less extent, in every case of cholera?

The negro, whose case is herein reported, who reacted with typhoid condition, and who, I am happy to state, is now fully convalescent, had two or three actions from the bowels, in the stage of reaction, of bloody matter in which, if I were a microscopist, I am sure I should find a plenty of epithelium.

I have placed cholera among the malarial group of diseases. I now proceed to notice, succinctly, what vital organism is

specially elected for the display of its mysterious qualities; and it will be seen that the phenomena which we universally witness, and which are so characteristic of the disease, naturally follow—are consequential.

The animal body is a compound machine made up of several systems, each being a separate and perfect, but not independent, organism within itself, and by connexion of these systems, in vital and living harmony, the wonderful compound and moving organism is completed. Each forms a link in the grand circle of vital movements; and the integrity and existence of the animal depends upon the integrity of connexion and of action of each component part, while each part itself is dependent upon the integrity of connexion and of action of the whole. These several components of the animal body are mainly a respiratory and circulatory, a nervous, a nutritious, a secretory, and an absorbent system. Among all these the absorbent system ranks of first importance in the maintainance and perpetuation of animal life.

Without absorption there can be no blood manufactured, no tissues nourished, and no effete matters eliminated. Secretion, it is true, is the channel of outlet for many matters that have become effete, and unfit for use; but secretion itself is dependent upon absorption. Absorption, therefore, is among the most important of the vital forces, if not the first in the wonderful and complicated machinery of animal life.

Whatever the poison be that produces cholera, I am of opinion that it has a special affinity for the absorbent system; and I believe that it may not even enter the blood before its ravages have commenced. I mean to say this, and I do assert, *that it is not specially a blood poison;* and that the blood or the tissues, except the absorbents themselves, are not wounded by a direct action of the poison, but suffer primarily; first, the blood for the want of aliment; and, second, the tissues for the want of blood. The blood, therefore, is not poisoned primarily by a direct action of the cholera poison upon it, but secondarily by retention of urea and other effete matters which would otherwise have been carried off by absorption and secretion. Those functions, however, being placed at rest by the specific action of the cholera poison upon the absorbents, the urea is retained in the blood to an amount

sufficient in itself to produce death. But the blood circulates feebly and sluggishly on account of the failure of the grand *vis-a-tergo*-absorption; so that, both on this account,—the stagnating tendency of the blood—and the failure of the vital function of absorption, the urea does not reach the brain in quantity sufficient to produce death. While, therefore, on the one hand the patient is being starved to death by the failure of sanguification, on the other hand he is saved from uræmia through a sluggish and stagnating circulation on account of the failing powers of absorption.

The sum of my hypothesis is this:

1st. Cholera is a specific poison of the malarial species, more analogous to pernicious fever than to any other known disease.

2d. This poison has a special affinity for the fluids of the lymphatics and lacteals, of the absorbent system, affecting the vessels themselves, which, by spasmotic contractions, empty their contents into the cavities and cellular tissues, so that all blood food is exhausted, and the individual can live no longer than the old stock of blood lasts, unless the economy be corrected and new supplies be given.

3d. Through this primary and specific action of the poison upon the lymphatic, the extreme plexuses of the ganglionic system of nerves are excited, and the impression being sent to the great ganglionic, and cerebro-spinal centres, are reflected upon the abdominal muscles, and muscular coats of the stomach and bowels, throwing them into violent spasmodic action, producing vomiting and purging.

4th. By the same kind of reflex actions are produced the characteristic cramps of the muscles of the extremities.

5th. The supply of carbonic acid to the lungs is directly proportional to the quantity of blood sent thither, and this being lessened in proportion to the failure of sanguification, less carbonic acid is expired, and less heat is generated. Therefore, to this, as well as to effusion of lymph into the cellular tissues, and the consequent increased evaporation, is to be attributed the great coldness of cholera patients.

6th. The *vis-a-tergo* of absorption and sanguification being placed *hors du combat*, so to speak, the blood, already on hand, is

propelled more and more feebly until it stagnates, first in the capillaries and venules; and then in the large veins; and finally in the right heart itself.

7th. The stagnation of the blood in the capillaries and veins, is passive congestion; and is dependent upon the want of force in the propelling organ, which weakness depends upon failure of sanguification. As this failure is not absolutely instantaneous, the vessels suffer great turgesence, and great loss of vitality; and the consequence is effusion of serum, and even extravasation of their more solid contents; which, taking position according to nature or accident are more or less mingled with lymph, chyme, and chyle. These undergoing changes by chemical action, the peculiar and characteristic evacuations of cholera are produced.

8th. Cholera is neither irritation nor inflammation; nor yet, exhalation of the vital forces; but its phenomena are to be attributed solely to a peculiar affinity existing between the poison itself and the fluids of the lymphatics, by which all blood element is exhausted.

9th. Cholera is, in any given body, exhaustive of itself; and, the revolution produced by it, is the *vis medicatrix naturæ* to get rid of it.

10th. It is the most exhaustive of all diseases, and the quickest mode of starvation that is yet known.

11th. The pathological condition indicating either irritation or inflammation is the result of a fruitless effort at reaction; or, it is to be found only in bodies who die after what is called the "typhoid condition."

12th. *It is in no wise contagious.*

My hypothesis being correct, the indications of treatment are *very clear.*

In cholorine, or the premonitory diarrhœa, which, as God will have it, (since cholera is the most fatal of all diseases) is the warning of its approach—as the rattle of the most venomous and poisonous of serpents warns the traveller that he must not take another step—mercury and opium, with or without mild astringents, will prevent the disease.

In cholera nothing can stop it until it has exhausted its own venom; and this is done quickly by a few vomitings and purg-

ings. But if the doctor gets to the patient before it is done, let him assist nature with a stimulating emetic, and to this end, nothing is better than mustard.

After this let him check, as speedily as possible, the vomitings, and purgings, and thus husband all blood aliment that may be left. But, as the patient is too exhausted for any narcotic whatever; and as the glandular system needs stimulating, let him fulfill both indications in one prescription; and to this end nothing is better than small doses of calomel, piperine, and quinine, with full doses of chalk and kino, alternating with peppermint water, creasote, and chloroform. This is an excellent prescription for stomach, bowels, and blood. In the first instance, it quiets spasmodic action, relieves vomiting, astringes the vessels, and stimulates the vital forces; and in the second, it stimulates the brain and heart to more vigorous effort. In connexion with this, a blister over the stomach and bowels will aid reaction very much; if well managed, there is no better stimulant as well as revulsive, and its effect is permanent.

When he has accomplished these thing, let him give turpentine to cure any lesions of the mucous membranes as well as to stimulate the kidneys; and let him *cautiously* feed his patient.

I am happy to state, that with this course, commencing with the negro herein reported, I have cured three cases one after the other, one of which was nearly sixty years old.

ART. II.—*On a Modification of Flap in Amputations:* By DUFF CHILD, M. D., Mobile, Alabama.

IT is with much hesitation that I venture to suggest publicly, a modification in a class of operations which has received so much attention from men of eminence, learning and ingenuity; especially, since I am not positive that my idea is at all original, although I believe it to be so, and because I have no statistics by which I can prove that my suggestion is either practical or feasible, having, however, satisfied my own mind on both points by experiment on the dead body. The peculiarity in the operation

to which I wish to call attention, was presented to my mind by the result in a case where an arm had to be amputated some three inches below the shoulder-joint.

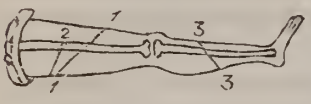
The patient, a healthy man of about thirty years of age, while adjusting some machinery near a circular saw in rapid motion, was so unfortunate as to fall, catching the saw between his right arm and the body. The result was that the soft parts forming the axilla and its vicinity were fearfully lacerated, all the vessels and nerves being torn asunder.

Amputation was performed, as I have stated, below the shoulder joint and so as to leave the head and about two inches of the humerus. The injury to the soft parts was of such a nature that a covering for the stump could be had only from the outside of the limb, which covering was fashioned into a long wedge-shaped flap to be doubled over the end of the bone and attached to a concave edge of skin on the inner border of the axilla. The extremity of the flap and the part to which it was joined happening to fit quite accurately, the greater portion of the wound healed quickly by first intention, forming a rounded, well-shaped stump, with the cicatrix on the inner side and considerably above its end. Now, had such a stump as above described, resulted after amputation of the thigh or leg it would have been well suited for the comfortable adaptation of an artificial limb to either part, for the following reasons: First, the cicatrix being on the side and above the extremity of the stump would not, in consequence, be subjected to irritation from friction and pressure, when the artificial limb was moved or merely sustained the weight of the body; besides, a perfectly healthy skin surface would present to the abutting surface of the false limb. Secondly, the nerves and vessels of the part would be so cut as not to be included in the flap, therefore, would also be in no danger of injury from pressure or friction.

All the advantages of the operation I wish to suggest are attained by the rectangular flap proposed by Mr. Teale, and I think by no other; but the performing of Mr. Teale's operation requires much closer calculation, and consequently more time and care than is necessary when the limb is severed by two strokes in a plane oblique to its diameter.

Having premised this much, I will now proceed to describe more particularly the operation I propose, and this cannot better be done than by the following figure:

Figure 1.



In the figure 1, 1, shows the line of incision for amputation of the thigh, the division of the soft parts being made by cutting from without inwards to the bone, or by transfixing the limb and cutting from below the femur, downwards and backwards, then forming a single and anterior flap by cutting from the bone upwards and forwards. Before sawing the bone, the muscles should be separated from it by the point of the knife and the anterior flap be pulled well back. so that the point of section of the bone shall be very nearly on a line with the posterior border of the incision through the skin. (See No. 2 in figure No. 1.)

Figure 2

The stump resulting from the above described procedure would appear thus (Fig. 2) if viewed from the side, and would, after healing, present a symmetrical and rounded trunk, covered at the end by a thick layer of muscle and a sound surface of skin, the same points gained by Mr. Teale's operation, the cicatrix being equally as advantageously situated. I believe that the above described form of flap will be found to be equally as good, if not superior to any other, whether single or double, not only because of the favorable position given by it to the cicatrix, but owing to the facility with which any discharge might escape from the wound, provided healing by first intention should not be secured. The operation is not quite as suitable for amputation of the leg as for the thigh, though I think it is as well adapted for that portion of the lower extremity as is any other flap operation. In fact, the cut surfaces by this method will fit to each other more accurately than they will when the flap amputation of Mr. Fergusson, as ordinarily performed, is employed; consequently, healing by first intention ought oftener to be obtained.

In forming the *single oblique flap* in the leg, it will be found that the skin over the front of the tibia has such a strong tendency to retract that it is necessary, in order to secure a sufficiency

of integument to dissect up this skin for an inch or more before transfixing the limb for the purpose of finishing the posterior part of the incision or flap. (Fig. 1—3, 3.)

By taking this precaution, the bone can be sawn sufficiently short to allow the long posterior flap to be doubled over the tibia and attached without any difficulty. Owing to the adoption in surgical practice, during the last few years, of the use of metallic sutures, and the application to freshly cut surfaces of a solution of chloride of zinc and other preparations, all of which procedures seem to favor union by first intention, it is impossible that flap amputations will come to supersede those by the circular method, because flaps can be so shaped as to fit each other very accurately, and therefore are more likely, by the aid of these measures, to heal by early adhesion.

I will add, that should the form of flap herein suggested be adopted in any case, it would be proper to use both the metallic suture and chloride of zinc solution in order to ensure prompt healing, and, consequently, a well-shaped and serviceable stump.

ART. III.—*The Pathology of Passive Congestion, and its relation to Asiatic Cholera; An Inductive Research, read by special appointment before the Medical Society of South Carolina, May, 1866:* By WM. HUTSON FORD, M. D., Prof. Medical Chemistry, etc., in the New Orleans School of Medicine.

(Continued from January Number.)

Hypo-oxygenation; where the blood contains less oxygen than is adequate to the systemic oxidations.

The blood may be reduced to a condition of hypo-oxygenation:

1. By simple exclusion of oxygen;

2. By the undue presence of carbonic acid in the air, which becomes irrespirable to man, when the quantity of this gas exceeds or even equals two per cent;

3. By an augmentation of the rate of tissue-death to an unusual degree, under the influence of high and sustained heat of the body;

4. By presenting to the blood in the respired air any easily oxidizable gas, such as hydrogen, sulphureted, phosphureted, carburetted hydrogen, ammonia, the vapor of alcohol, etc.

5. By destruction of the blood-corpuscles.

According to the laws of the Draperian circulation, if access of oxygen be cut off from the blood, as by disease, spasm of the glottis, bronchial constriction, or immersion in water or any irrespirable gas, systemic oxydation failing, a stasis more or less complete, will become manifest in the capillaries of the *systemic* circulation, and as the blood moves by degrees more slowly, a second effect of the same failure of chemico-vital reaction, will become evident, as readily insisted upon, in the relaxation of the minute vessels; the stasis and vascular dilatation together, constituting the phenomena of *systemic or general passive congestion—or stasis of the greater circulation by simple deficiency of oxygen.* Such is the congestion observed over the whole surface in spasmodic asthma, in croup, in pulmonary hepatization, in death by immersion in carbonic acid or by drowning; in these and similar cases, a general congestion is marked, pervading the entire mass of the structures, manifest to the eye upon mucous and membranous surfaces, and recognizable by autopsy in the nervous masses and parenchyma of organs.

2. *Undue presence of Carbonic Acid in the air.*

The effects of an undue amount of carbonic acid in the air, must be distinguished from those of absence of oxygen, or simple asphyxia, although practically, it equally results, in the arrest of the oxygenation of the blood.—While plants may flourish in an atmosphere containing as much as six or eight per cent. of carbonic acid, or even a greater quantity, in strong solar light, as shown in the Solfataras, in Italy, where the waters pour forth an uninterrupted supply of this gas to a host of confervoid and cellular plants which grow in them, man cannot live in air which contains over two per cent. of this gas. The presence of carbonic acid in the air, acts efficiently upon animals, like a positive diminution of oxygen, for the absorption of oxygen by the blood in the lungs, varies inversely as the amount of carbonic acid retained in the pulmonary blood; this being directly controlled by the amount present in the air respired. The presence of carbonic

acid, therefore, in the atmosphere, by preventing the evolution of carbonic acid from the pulmonary blood, thereby impedes or prevents the accomplishment of hæmal oxygenation. Under such circumstances, what may be denominated *indirect asphyxia* is induced, or hypo-oxygenation, long before the whole amount of the oxygen is exhausted in the respired air, a state of things which results, as in *direct* asphyxia, in *stasis of the greater circulation.* Such is the form of asphyxia which tends to occur in overcrowded halls or places of public amusement, and of which a commonly cited and very instructive example is furnished, in the details of the awful night passed by a band of wretched prisoners in the Black Hole of Calcutta.

3. *Augmentation of the rate of Tissue-death, under the influence of high and long-continued heat.*

In health, the oxydation of the products of molecular-death, is commensurable with their liberation, the oxydized matters being rejected by the excretory organs from the economy. As we have shown, the rate of this "*retrograde metamorphosis*" is directly proportionate, up to a certain point (at which vitality refuses to yield further to the action of chemical force), to the actual temperature of the tissues. Indeed, the existence in the scheme of nature of animal groups in which the bodily temperature is interruptedly or steadily maintained, by elaborate and special adaptations, at a high grade, quite independently of atmospheric thermal oscillations, is essentially founded upon the more rapid disintegration of tissue, and the larger quantity of food consumed; whereby such organisms are enabled to put forth unusual degrees of animal activity. This is especially manifest in birds, where respiration is about twice as active as in man, and the amount of tissue-death, and food ingested, proportionately greater.

Physiology recognizes for man, the necessity of more abundant and more nutritious food in winter and in cold climates, for the due maintenance of his animal temperature; and of increased temperature of his body, for the exhibition of exalted vital activity. By the influence of heat, the natural rate of tissue-death is quickened, and the concurrent demand for additional supplies of oxygen, immediately and imperatively expressed. Violent muscular exercise, produces an increased respiratory and

circulatory activity, as parts of a mechanism, by which the oxydative necessities imminent in the rapid change of the tissues induced by such muscular exertion, are to be satisfied. If now, a high degree of humidity of the atmosphere, approaching or attaining saturation, attended as it always is, in the march of the seasons, by high atmospheric heat, be maintained long enough for the tissues to reach the atmospheric grade of heat, or nearly so, the body becomes surely overheated, as the cutaneous transpirative function is at such times more or less completely in abeyance; for the air being already loaded with moisture can take up no more, and the cutaneous perspiration in a *liquid* form, is seen to trickle down the skin, or bedew the surface, without in any wise, or but slightly, passing into the state of vapor. It is well known, however, that this *vaporization* of water from the cutaneous and pulmonary surfaces is the only mode by which the body is enabled to resist the effects of undue heat, no other provision for this purpose existing in the economy. The generation of heat and the emission of vapor are thus exactly antagonized, and when both functions are properly performed, that grade of temperature is steadily maintained, which is proper to the individual. It is thus that a continuation of high atmospheric heat and humidity, inevitably causes an exaltation of the bodily temperature; heat alone is quite inadequate to produce this effect, for the evaporation from the skin, in a dry air, continually reduces the temperature of the organism.

If now the combined influence of high heat and humidity, be exerted for any considerable period upon the animal body, its temperature is augmented, tissue metamorphosis is rapidly performed; the accumulation of unoxydized products of tissue-death in the blood overtasks its oxygen; the circulation languishes; and a tendency to *stasis* of the *systemic* capillaries accompanied with their dilatation, supervenes. Such congestion, may always be observed on the skin, conjunctiva, and mucous surfaces, in the inceptive grades, and until convalescence in fairly established, of the "*simple bilious fevers*" of hot countries of the form *synochus*, being one of their marked characteristics. I regard "ephemeral fever," of summer, likewise, as a systemic stasis, more or less complete, by hypo-oxygenation, due to excessive demands upon the

oxygen of the blood, in virtue of the augmented activity of tissue-change in the system. No external causes are concerned, but high heat and humidity. Such affections may therefore occur upon all kinds of soil, or at sea, on the cleanest vessels, in a pure atmosphere, provided only the air be excessively *hot* and *humid*—and the body have been overheated. There is no evidence of any tendency towards sepsis.

4. We pass on to consider the effects of admixture with the air, of gases possessing a marked affinity for oxygen, which, upon inhalation into the lungs, enter into union with the ozonic oxygen of the blood, and thus institute an adventitious, abnormal, and extra-systemic demand for oxydation upon the red corpuscles, *superadded* to that—*naturally existing—of intra-systemic* origin.

As by the fundamental conditions of animal life, heat, moisture, and oxygen combine to produce a decomposition of the atoms of the organism, which vitality is able to *stay*, but cannot permanently arrest; so likewise, in the world at large, the same agents, effect in all dead organic matter, a sequence of changes, which chemistry is by no means able to distinguish clearly from those of the living organism—this is commonly known as putrefaction or more properly perhaps, putrefactive fermentation. In both cases, within the body, as out of it, the processes are so similar, that it is highly reasonable to suppose, that the same ultimate products are reached; although it should be borne in mind, that within the organism, the several steps appear to be somewhat modified or controlled by systemic affinities (as in the *grouping away of urea* and other complex elements in the decomposition of muscular fibre); the ultimate products, moreover—if the balance of oxydation be duly maintained,—being more rapidly oxydized than in the atmosphere; though here likewise, this is sooner or later accomplished by the agency of aërial ozone.

Out of the body, as within it, these resolved components of organic matter, exhibit, as a marked characteristic, an extraordinary affinity for oxygen; they are, hydrogen, sulphureted, phosphureted, and carbureted hydrogen, carbonic oxide, and ammonia; carbonic acid, whose influence upon the oxygenation of the blood, has been already considered, is likewise a constant product of putrefaction, but is not further oxydizable, and cannot therefore

be ranked with the above-mentioned substances. Now these gases, products of organic decay out of the body, by a pneumatic law, when evolved from terrestrial surfaces, naturally accumulate in the surface stratum of the atmosphere, if not wafted away as soon as formed by aërial currents, or destroyed by the active principle of atmospheric purification—*ozone*. When thus mingled with the air, these *miasms*, are brought by respiration into contact with the vastly extended surface of the blood-corpuscles in the lungs. If now, the remarkable affinity possessed by these substances for oxygen, instantaneously exerted upon ozonized oxygen even in the cold, be duly kept in view, the important part ascribed to their agency, in the production of disease, becomes easily explicable. Nor must the small proportion of these substances found in air claimed to be miasmatic (though sometimes present in very large and immediately fatal qualities), excite our surprise, or induce us in the least to underestimate their deadly influence upon animal life. Vital processes are so delicate, that Nature employs only minute quantities in the construction of the greatest of her works. Were it otherwise, the common medium, air or water, would be unfitted for the simultaneous maintenance of all the varied and antagonistic forms of creation. Thus it is known that only five parts of carbonic acid are naturally present in 10,000 of air, yet the whole fabric of vegetable creation rests upon the absorption of this minute quantity through the stomata of leaves. When a gentle breeze passes through the foliage of a vigorous tree, especially one of a deciduous nature, whose leaves are succulent and numerous, as a mimosa, it emerges without a trace of carbonic acid; all has been abstracted by the plant. So likewise, the amount of lime found in seawater, is excessively small, but a thousandth, yet the heavy shells, of Cassis, Chama, and Ostrea, and indeed continents, almost,—of coral, are daily built up of it. Moreover, as the quality of oxygen contained in the air, viz., twenty-one per cent, may be said to be entirely due to the action of plants, it must be recollected that all that is daily added to the common stock, or the whole amount used by animal life (for the balance is nearly constant in the atmosphere) is the result of the decomposition in the green parts of plants, of the mere trace of carbonic acid of the air we breathe.

By the laws of life, as by those of mechanics, continuity of action is capable of effecting the same results as intensity.

If we may judge, by the instaneous reaction of the above enumerated miasms with artificially prepared ozone, there is good reasons to suppose that no particle of such miasms, when inspired, is again exhaled from the lungs. The mutual affinity existing between them and the blood ozone, seems adequate to cause their complete oxydation and absorption into the circulation. If, moreover, the balance of oxydation be exactly maintained, the inhalation of a very small amount of miasm will be adequate to reduce the blood to a condition of hypo-oxygenation. And this is no less true, if the oxygenation of the blood—as there is good reason to believe—is normally slight, in excess of what is strictly required for the performance of the vital oxydations. The quantity of miasm necessary to antagonize this excess, will still be small, and by continual inhalation of such gaseous oxydizable matters from without, the ozonicity of the blood must sooner or later be more or less completely overwhelmed, and the performance of the oxydative acts necessary for the destruction of the products of tissue-death, and for the extrication of nervous force more or less impeded. This becomes clear, if with Müller we estimate the number of respiratory acts per minute at 18, of 20 cubic inches of air each. In 24 hours, no less than 500,000 cubic inches of air will be brought into contact with the surface of the blood in the lungs, and if we estimate the quantity of such miasmatic substance present in the inspired air, at only five parts in 10,000 (a quantity which experiment has shown they may easily attain), no less than 250 cubic inches of miasm will be daily oxydized at the expense of the blood, or about one and a half cubic feet in the course of ten days (a usual period of *incubation* so called), in addition to the natural task imposed upon the blood ozone, by the normal processes. Hence, whenever the slight normal excess of ozonicity of the blood is overborne, *("vital resistance to miasmatic impressions")* which is obviously present in the negro, and other dark-skinned varieties of man who are well known to be more especially capable of breathing miasmatic air with a certain limited impurity, than the white races, diseases of miasmatic origin are established, with characteristic general congestions.

These morbid phenomena are not so readily inaugurated in "acclimated" individuals, who have become able to live in air of a miasmatic intensity capable of quickly overwhelming the blood-ozone of persons not so "acclimated." *But in all cases the proper balance of oxydation may be sooner or later disturbed, and the ozonicity of the blood degraded*—this condition being much sooner realized by the favoring influence of continued heat and humidity; the rate of tissue-death becoming under the latter circumstances concurrently augmented. So it must be perceived, that in this case, which is the *usual condition at seasons when putrefaction and the evolution of miasm are most active*, the ozonicity of the blood is doubly assailed, by substances demanding oxydation, *both* of *systemic origin*, in *abnormal quantity*, and of extra systemic production, *contained in the inspired air*. The atmosphere is itself charged with a varying quantity of substances requiring oxydation, and by its continued inhalation, adds to the labor already imposed upon the overtasked blood. Hence, there must ensue eventually, as the quantity of these oxydizable matters present in the air is greater or less, a degree of hæmal *hypo-oxygenation* proportionate to the activity of its causes. If miasm be sparingly present, but atmospheric heat and humidity, and consequently *bodily heat* be high, the blood is not overwhelmed until after the expiration of a certain time—and the same result occurs if temperature and humidity with bodily heat be low, though miasm be abundantly present, unless it contains some of its more especially noxious elements, which act in another and still more dangerous manner, *e. g.*, *sulphureted hydrogen*. *But*, if abundance of *miasm*, combine, as it most frequently does in the order of nature (wind and ozone by which it is destroyed being absent), with *high heat and humidity* and their correlative *high heat of the animal body*, inductive of unusual activity in the rate of tissue-death,—the blood ozonicity is quickly overwhelmed, the capillary circulation languishes, the forces by which reflex action normally constringe the arterioles, are not adequately generated, the minute vessels dilate, and circulatory retardation, with partial vascular dilation, passes more or less quickly—into its complete expression, viz., *general passive congestion of the greater circulation*—in proportion to the continuance or increased activity of

the causes inducing these conditions. This is *Stasis of the greater circulation, by Hypo-oxygenation*, consequent *upon the presence of oxydizable matters in the respired air, simply;* or by the concurrent presence of such ærial matters and equally oxydizable compounds in the blood, of *intra-systemic* origin.

5. *Hypo-oxygenation by destruction of the blood-corpuscles.* Though in virtue of its oxydizable nature, sulphureted hydrogen has been considered in the preceding paragraph, among the usual results of putrefaction, as one of the common miasms—it must further be preëminently distinguished from them, as far as we know, by the possession of an influence upon the red-corpuscles of the blood, peculiar to *itself*, among the *natural miasms*. This gas is moreover invariably present in the products of putrefaction, being produced by a union with hydrogen of the sulphur which all animal matter contains; it is therefore the most constant of the miasms, if, perhaps, we except ammonia, in combination with which it is usually evolved. The deadly nature of sulphureted hydrogen has been long known. When mingled with common air, even in very minute quantities, it is competent to extinguish life in a moment. Thus the presence in the respired air, of 1-250th part, is fatal to a horse in a very short time; 1-800th to a dog, and for the actively respiring bird 1-1500th part. Man may breathe with impunity for some time an atmosphere containing no less than one per cent of sulphureted hydrogen it is said, but this can only be done during a portion of the twenty-four hours. All authorities admit that the continued inhalation of a very minute quantity of this gas is ultimately fatal.

Now, the inhalation of sulphureted hydrogen as a miasm, is only continuous, and full scope given to its powers, when wind and ozone are absent, atmospherically, or the circulation of the air impeded, as in deep cellars, or in close courts, or between decks of ships with a foul bilge water. It is but rarely, therefore, that it is inhaled in a markedly concentrated state.

In 1840, Liebig drew attention to the peculiar attraction of sulphureted hydrogen for the iron of the blood-corpuscles. When agitated with a portion of this gas, the red-corpuscles assume a purplish green hue, and cannot again be reddened by contact with oxygen. A decomposition evidently takes place; the corpuscles

lose their vitality, and are unfitted thenceforth to perform their natural functions. Similar phenomena occur upon the agitation of arterial blood, with hydrocyanic acid, either fluid or vaporous, and with carbonic oxide; in each case, the corpuscles are functionally destroyed. These reactions are explicable by the well known affinities of hydrocyanic acid, and sulphide of hydrogen, for the iron, which forms an essential element in the composition of the hæmata-globulin of the red-corpuscles. Death by the inhalation of sulphureted hydrogen in large quantity is instantaneous—the combination which takes place between the elements of the gas, and the material of the corpuscle, appearing to be immediate. And furthermore, the same effect, viz., destruction of the corpuscles, cannot fail to ensue, whether this gas be inhaled in large or minute quantity—for at least the greater part of what is inspired must enter into combination with the blood, and the intensity of its effects is only a question of time and quantity. It must be also observed, that in many cases, as the corpuscles are destroyed they will be replaced by new accessions of these discs, and if the rate of reproduction is sufficiently rapid, no general disturbance will be manifested, the balance of oxydation remaining in *equilibrio.* But if the formative power of the blood discs, be inadequate,—or if the quantity of the gas inspired be increased beyond a certain amount, a hypo-oxygenation of the blood is necessarily begun.

Now thirty-four lbs. of blood, the normal quantity contained in the body of a healthy well developed man, contains 187.49 grains of protoxide of iron. This will be entirely neutralized by 182 grains of sulphureted hydrogen. 20 cubic inches of air, by Mr. Coathupe's estimate the amount of one ordinary inspiration, weigh about 6.37 grains. If therefore we assume one half per cent. by weight of sulphureted hydrogen to be present in the inspired air, it will be necessary that 5714 respiratory acts be performed for the introduction of the required amount of the miasm; and at eighteen respirations to the minute, this will be accomplished in something less than six hours. Even supposing that only five parts in ten thousand by weight are present, a small proportion for foul air, the absolute destruction of all the *blood corpuscles of the human body* would be accomplished in the short space of three

days; although this result should be corrected by some figure expressing the degree in which the air inspired into the bronchial ramifications, is really exchanged for that constantly in the air vesicles. It thus becomes evident that the entire ozonicity of the blood may be overwhelmed by sulphureted hydrogen with far greater rapidity than by any of its associated miasms, in a period which may be embraced within a few hours, if the miasm be very intense, but is probably, in the generality of cases, with miasm of ordinary intensity, extended to some days—and it is moreover obvious, that death must ensue long before the entire mass of blood-corpuscles is destroyed; as in hæmorrhage, it occurs after the loss of only a certain *portion* of blood.

It must be recollected, however, that it is excessively unusual for an individual to remain submitted to the action of the same mass of air, by day as well as by night; the inhalation of miasmatic air is usually intermittent, being chiefly effected at night, when its miasmaticity is also most intense.

The considerations thus far set forth, will now furnish a basis, from which we may proceed to a cautious examination of the chief symptoms of aspyxiative cholera, and by which we will perhaps be enabled to explain the changes which take place more or less rapidly in the system, while it remains subjected to the complex influences whose obviation has up to this time absolutely baffled all our remedial resources.

When oxydizable substances are mingled with the air habitually inhaled by man and animals, as we have already shown, they will not fail to produce after a time directly proportionate to their abundance, other conditions being equal, a hypo-oxygenation of the blood. These miasms are daily emitted from numerous foci, without giving any sign of deleterious influence. They *appear* to be inhaled with complete impurity; but a closer study of these matters will convince us that the system is really affected with more or less power. It is not true that these miasms can be continuously inhaled with impurity for a long period, if they are at all intense. They are seldom, indeed, *inhaled continuously*, for the air containing them is mostly breathed only at night, the individual going to his avocations during the day; or he is exposed to their influence during the day, and retires at night to a purer

air. In either case the economy is able to repair the injuries inflicted; and as by the supposition ozone is present in the air, the hæmal oxydations are able to attain their due standard, and the blood-corpuscles destroyed by the sulphureted hydrogen, or sulphydrate of ammonia, in the air so temporarily breathed, are restored again to the blood. So the inhalation of miasm is intermittent, and by the conjoint agency of the ozone of the atmosphere, and the corpuscle-making power of the body, the balance of oxydation is maintained, and health remains unimpaired. This may be said to be the condition of a majority of the inhabitants of cities and of many mal-ærated places, in rural districts, during a considerable part of their lives. There are few persons who do not inhale miasm more or less abundantly at frequently recurring intervals, but the ozonicity of the air, is likewise nearly always determinable, and sometimes unduly high. As it is the office of atmospheric ozone to destroy the vast quantities of miasm incessantly poured forth all over the earth's surface, from the constant decay of animal and vegetable matter; it is that of the blood-ozone, or of that slight excess of oxygenation, formerly adverted to, to neutralize such miasms as are commonly present near human habitations, and against whose injurious influence, man is advised by the nauseous odor possessed by the most injurious of them.

In the second place, although the miasms be poured forth in usual or unusual quantity, they are obviously not *inhaled continuously*, during the occasional activity of wind; and if the ærial current be sufficiently strong, whatever may be their intensity, they are blown away, and are not *inhaled at all* or but greatly diluted. Calmness of the air, especially at night, when the well known ascending atmospheric currents daily produced by the sun's heat are no longer active, is therefore a condition of the simplest physical nature, absolutely inseparable from the causation of miasmatic disease. This ærial stagnation may be simulated by the confinement of certain portions of the atmosphere in cellars, in ships (especially during foul weather at sea), or in close courtyards or chambers. The former is a natural or meteorological calm; the latter purely artificial; but the causes of the aerial quietude are entirely immaterial, its effects are the same;

without it, miasm is only partially efficient or absolutely ineffective. Ordinarily, winds are sufficiently powerful and frequent, to render the quantity of miasm, habitually or intermittently inhaled, so small, as to be inefficient in the production of disease—and this even during the absence of ozone from the air. So, likewise, if perfect calmness prevail at night, the air will become so loaded with miasm in close places where its extrication is very abundant by reason of the quantity of its source or the high temperature of the house or season, as to counterbalance a very considerable degree of ozonic intensity, and thus exert its effects upon the animal economy.

It is therefore plain, that in the phenomena of the *real application of miasm to the pulmonary surface*—which are controlled by so many conditions, the fundamental element is simply, *calmness of the air*—whether natural or artificial—and within this *inseparable* condition, the antagonized play of aerial ozone and aerial miasm, takes place.

No miasmatic dieease therefore can occur without calmness of the air; a proposition which is axiomatic in Epidemiology; which is supported by every recorded fact in the history of epidemics; and is cited in the etiology of epidemics as much by the contagiouist as by the miasmatist. We will take occasion to mention, that in this city, (Charleston) we have found from the figures, that yellow fever varies directly *as the calmness of the nights.*

By the *exalted or concurrent action* of the above conditions, if common miasm be present in the air and inhaled in a quantity which the normal excess of blood-ozonicity is unable to resist, a *hypo-oxygenation* is established which progressively increases as long as the blood is submitted to its influence, provided the animal economy be unable to call into play, for the higher oxygenation of the blood, that harmonious and beautifully devised mechanism which is denominated reaction, or reactive-fever. This it is able in most cases to accomplish; as in intermittent and remittent fever, typhus, typhoid and yellow fever, etc. In one disease more markedly than all the rest, the system has obviously lost this power nearly entirely, and most rarely is able to exert it, this is the disease under our present consideration, Cholera. When reaction takes place, the individual usually recovers—but in many

cases, the force of the disease, at a blow, "cadaverizes living humanity," as Magendie phrases it, and the desirable reaction *cannot occur*. This class of cases, which properly represents *the disease*, demands our special attention.

From the earliest impression of miasm upon the blood to the moment of death by algidity, one prime condition is recognizable, and this only in gradually increasing intensity through the several stadia of *cholerine*, *diarrhœa*, and *cyanosis*. This fundamental condition is the *passive congestion* or *retardation* of the circulatory current with vascular dilatation, which we have seen to be the immediate consequence of hypo-oxygenation of the blood. In the majority of cases of cholerine, it has not been produced by an undue eruption of the products of tissue-death, in consequence of heat of the body due to aerial heat and humidity as above set forth, although there can be no doubt that these causes, as well as the enhanced tissue-death due to unusual labor and fatigue, are most importantly involved in the causation of this hypo-oxygenation, though not so markedly, as in yellow fever, where the tissue-death runs on into a true sepsis. All observers of cholera, allow a large share in the causation of the disease, to heat of the season, humidity of the air, and excessive exertion of the muscular or nervous system. But we will concern ourselves, for greater simplicity of exposition, only with the influences of miasm unaided by such intra-systemic complications. By the inhalation of miasm, therefore, hypo-oxygenation is established, which is progressive,—that is, which becomes naturally more and more intense, as long as the individual continues to inhale the miasmatic air. Now, all city miasms, besides the ordinary oxydizable matters, which acts simply by abstracting oxygen from the blood, contain a greater or less proportion of sulphureted hydrogen; and this substance acts probably in two ways on the animal economy. For while, by virtue of its hydrogen, it simply deoxidizes the blood, its sulphur, as we have set forth, combines directly with the constituents of the blood-corpuscles, and absolutely destroys their function. This action may be slow, or extremely rapid, a few hours exposure to intense miasm of this kind, being sufficient to destroy every corpuscle in the animal body. It is, however, probable, that this deadly gas is very rarely present in sufficient quantity

to produce so powerful an effect; and it is obvious that the economy would succumb at a point very far short of a total destruction of the blood-discs. We cannot, however, doubt the peculiar fatality of miasms, in which this gas is present, as the emanations from sewers, from drains, from the bilge water of ships, from privies, etc.; sulphureted hydrogen, and its usual and perhaps equally, if not more deadly associate, sulphydrate of ammonia are never absent from city miasms. *These gases are always present in miasms of animal origin; of course, not only in cities, but in filthy places in the country, in the neighborhood of human dwellings.*

Hypo-oxygenation by animal miasm, therefore, is distinctly due to a double cause. 1st. *The simple demands for oxygen common to all miasms.* 2d. *The peculiar destructive power of the sulphurous miasms upon the blood discs;* both these influences are naturally *progressive* and *cumulative*, while the animal body remains subject to their action.

Such then, in asphyxiative cholera is the manner in which the primary hypo-oxygenation is accomplished; it expresses itself in a capillary retardation, or passive congestion of the entire systemic circulation. This condition is evident in all the early symptoms of so-called *cholerine*, viz.: The inappetence and nausea experienced is plainly the result of gastric congestion, and so likewise the swollen and indented tongue betrays an unusual amount of blood within its vessels, while the borborygmi and colicky pains, are due to similar intestinal irritation, consequent upon the congestion of its muscular and mucous coat. The general weakness shows a failure of oxydative power in the blood and a languid circulation; so likewise the mental confusion and headache. A step further,—the symptoms are somewhat more expressed. Nausea is succeeeded by vomiting of ingesta, then of glairy or bilious matters—the circulatory congestion being augmented. This is moreover expressed by the occurrence of abdominal cramps, with dejection of the normal intestinal contents, followed by a fetid diarrhœa. The congestion of the liver, from the first, causes a diminished secretion of bile; but the efforts of vomiting, force into the duodenum what bile the gall-bladder may have contained at the onset of the disease. As by

congestion of the intestinal surface, absorption cannot take place, the bile thus poured forth, as well as what may be still secreted by the liver, though in diminished quantity, is not taken up again into the circulation, as naturally occurs during health; such bile therefore makes its appearance in the early stools of cholerine, or through this stage if it be not very severe. Moreover, the secretion of the kidneys, by the partial arrest of the blood-current, is diminished, and the urine becomes reddish, sedimentitious, and falls below the normal standard in quantity. The calorifaction of the body is impaired; for the general retardation of the blood-movement diminishes all the vital processes, and must likewise impair the glycogenic function of the liver. The action of the heart, as might be expected from the congestion of its walls, and the diminution of nervous influence, is feeble but accelerated. The congestion of the lungs by the capillaries of the bronchial arteries, which belong to the systemic circulation, causes a sense of fulness, and oppression, which is expressed by sighing.

Such is a picture of well developed cholerine; already a series of changes have begun which naturally prepare the way for graver ones.

Up to this moment, the hypo-oxygenation of the blood has steadily progressed by the constant accession of oxydizable miasm from the air, and the unchecked destruction of blood-discs by the sulphurous miasms. If now, these influences are withdrawn, if the patient is removed to a non-miasmatic locality, if he engages in no severe bodily exercise, if miasm be swept away by timely winds, or the domcile be properly ventilated by free exposure to the air, and if ozone become once more present in the atmosphere in sufficient quantity to destroy the deleterious compounds of the air; thus to reach the blood, and so combine its effect with that which still remains, though much diminished, of the blood ozonicity itself; or if febrile reaction succeed in concurrence with the fortunate modifications of the controlling conditions above enumerated, in establishing a higher oxygenation of the blood, and successfully oxydizing the noxious matters in the circulation, the symptoms of cholerine are removed, or notably abate, and health is after a time re-established. *But if the conditions primarily effective are in no wise changed*, the disease

passes on without sudden or marked transitions into the stage of colliquative diarrhœa, recognised as *true cholera.* Abundant testimony shows, that in the immense majority of cases, this algid stage is only the sequence of simple cholerine. For when the point has been reached in the advance of cholerine, just described, there are already present within the organism, all the elements requisite for the further development of the disease, and the production of its most terrible symptoms.

The blood, already hypo-oxygenated by the influence of extra-systemic, or also occasionally, in part, by intra-systemic miasms, *in consequence of the congestion of the lung capillaries (bronchial) and of the retardation of its current* throughout the capillaries of the systemic circulation, is more slowly presented *to the respired air*, more slowly deprived of its carbonic acid, and more slowly arterialized. Hence results a second variety of hypo-oxygenation, that by *simple deficiency* of oxygen. The circulation has become so languid that the *asyhyxia* is begun—which constitutes a long recognized and well marked characteristic of the malady. This asphyxiative tendency will now increase, if the patient be removed to a perfectly pure air; the asphyxia still further diminishing the oxygenation of the blood, naturally increases the blood-retardation, and with it, capillary dilatation. Passive congestion is now augmented throughout the systemic circulation. In consequence, the stomach becomes intensely irritable, and rejects whatever is swallowed; the kidneys, receiving less blood and unable to conduct that which is supplied to them, through their capillary vessels with due rapidity, secrete very little urine, or none; the intestines, still more engorged, allow the serum of the blood to pass in considerable quantity, the liver intensely congested, acts *like a sphincter* upon the ramifications of the vena-portae, whose capillary circulation among the lobules, had been already notably diminished by the general hypo-oxygenation. The blood is thus backed up in the vena-portae and thrown upon the already strained vessels of the intestines and stomach, with a force, sometimes sufficient to cause the rupture of this great vein, as witnessed by Prof. E. Geddings, in Baltimore, in 1832; and colliquative diarrhœa, so characteristic of the disease, proceeds with renewed energy. The delicate vessels of the gastric and in-

testinal walls, are turgid with blood almost to bursting, which parts with its serum in the well known rice-water evacutions. The forces which produce this diarrhœa, viz., primary gastro-intestinal congestion, and mechanical backing up of the blood upon the strained mucous capillaries, by the congestive occlusion of the liver, are absolutely irresistible. A very short while suffices to drain away, from the blood, nearly all its serum, to waste away the fullness and rotundity of the body, and entirely to transfigure the features. Concomitantly with the appearance of the serous diarrhœa, whose further effect upon the circulation of the blood we will presently notice; a new set of symptoms supervenes, viz., cramps in the extremities and muscles generally, sometimes localized, sometimes general, and even tetanic. They constitute one of the usual symptoms and are often atrociously painful.

It must be remembered that even during the existence of cholerine, the function of the kidneys, as well as of all other glands, becomes impaired; less urine being formed, and in consequence, step by step in the disease, less urea being eliminated from the blood. At a certain point, which usually coincides with the development of the rice-water discharges, total supression of urine supervenes. An accumulation of urea, already present, and dating from an early period of the cholerine, is therefore manifestly present, and exerts its well known influence upon the nervous centres. Now, in a mass of organic matter like the blood of a choleraïc patient, where the healthiness of the fluid has been from the earliest stages notably impaired, the controlling influence of adequate oxygen being absent, and the natural decompositions of tissue unmodified, it is obvious, that *urea*, which is easily transformed by contact with animal matter in process of decay, cannot remain unchanged, but must be decomposed into carbonate of ammonia. Nor, indeed, according to Frerichs, is urea itself the cause of the symptoms, of so-called uræmic poisoning—for urine itself or pure urea may be injected with complete impunity into the blood of animals, while if carbonate of ammonia be so introduced, the train of convulsive symptoms characteristic of urinary suppression or ligature of the renal arteries, is surely induced. It cannot, at the present day, be doubted, that so-called uræmic poisoning, is really due to a transformation in the blood,

of the retained urea, into carbonate of ammonia. Hence, therefore, it seems logical to attribute the convulsive and spasmodic phenomena of cholera to the presence of this compound. But the spasms are likewise due, perhaps for the most part, to the congestion of the nervous centres, especially of the spinal cord, and sympathetic ganglia. That congestion of these centres, while the blood is still endowed with a certain oxydative power, should produce convulsive muscular contraction, (and the blood remains rutilant in the arteries as long as the pulse is perceptible at the wrist, as shown by the division of the temporal and radial arteries by Magendie, Récamier, and Gendrin, in 1832) allied to that of tetanus, or epilepsy, is quite compatible with the idea, that by further change, when complete stasis shall have been induced, all excitability of the ganglionic cells might be lost, and reflex action become impossible throughout the organism. That a congestion of the ganglia is a cause of such phenomena, would also appear probable for the reason, that spasms of varying degrees of intensity often complicate cholerine, before the intestinal tension has become great enough to produce the real "rice-water stools" and is a common symptom of sporadic cholera. Moreover, autoptical examination, has shown in many cases, congestion of the grey matter of the spinal cord, and of the sympathetic ganglia, and sometimes even ecchymotic extravasation in the substance of the semilunar ganglion. So likewise, very common symptoms attendant upon reaction, after the development of the stage of intense congestion in cholera, are inflammation of the meninges and substance of the spinal cord and brain. So that while we assign the primary rank in the production of the constant and intermittent spasm of cholera, to the congestion of the nervous centres, we likewise attribute them in no small degree, especially in cases not very quickly fatal, to the action of carbonate of ammonia in the blood; which, it must however be especially observed, according to all we know of the influences of soluble agents upon the nervous centres, such as strychnine and the poison of serpents, can itself only act, by causing a congestion of these centres, or by so impairing their vitality, as naturally to induce vascular paralysis.—*(Stasis—by failure of vitality.)* We have seen that the intense congestion of the abdominal capilla-

ries, at once the result of the capillary retardation proper to the hypo-oxygenated condition of the blood, and more especially and intensely caused by the occlusion of the liver in consequence of the congestion of that viscus, results in the rapid discharge from the gastro-intestinal surfaces by simple transudation, like the trickling of serum from the body of a gorged leech, or the passage of the watery elements of the blood through the malpigian tufts, of nearly the whole serum of the blood. The circulatory fluid thus loses its mobility, and its passage through the aërating organ, already notably retarded by the tendency to stasis universal in the systemic capillaries, is thus rendered more imperfect, and asphyxia so begun, now becomes still more pronounced. On account of its diminished quantity, and viscous nature, the blood cannot be propelled by the feebly beating heart in sufficient quantity through the lungs (these organs, *as for their bronchial capillaries*, being themselves intensely congested); and the circulatory fluid is occluded in all the tissues, and immovcably fixed in them by the stasis attendant upon the universal congestion. This difficulty of aëration, due to viscidity and systemic stasis, is soon expressed in the advance of the asphyxia. The coloration of the skin becomes dark, the nails livid, the lips and mucous surfaces, and the vascular parts of the skin itself, as the face, the inner sides of the arms and thighs, *purple*, and very soon the whole body, is livid and completely cyanosed. Though the pulse may still beat at the wrist, stasis is now almost complete. The source of animal heat, viz., vital reaction of the blood and tissues, the due performance of the glycogenic function of the liver, and the proper aëration of the blood, being all at fault, animal heat is feebly generated, or not at all, and *from the beginning of the period of intense congestion*, the temperature has steadily declined. It has fallen as low as 77° before death in some cases—of course with manifest influence upon the phenomena of vital action, which is hardly possible at this temperature.

And now succeeds the stage of absolute stasis. That this is possible, at least in portions of the body during life, and even with ultimate recovery of the individual, is shown in the occurrence of gangrene of the lung, as noted by Rostan; of the genitals, mammæ, and buttocks, as noticed by different authors. The

pulse becomes, in this stage, imperceptible in the arterial trunks, and the heart is unable to propel the blood beyond the large vessels. In consequence of the general stasis and consequent paralysis of all the vital chemistry of the system, neither the origination nor reflection of nervous force can occur. The twitchings and spasms of the muscular system *subside;* the stomach retains whatever is poured into it; the stools cease; the whole gastric intestinal cavity makes no effort to expel the fluids which transude from the blood into them; the pupil dilates; the sphincters are relaxed, and the fluids which pass into the rectum drain away through the anus without impediment. Respiration becomes more troubled and slower, the action of the heart more and more feeble, true collapse is established, and death by adynamia usually closes the scene. The intelligence, though gradually more obtuse as the disease progresses, continues unaltered throughout the disease in the majority of cases.

Autoptical examinations of individuals who have died, as described in the stage of collapse, reveal the following conditions of the body and organs.

The surface is dark, purplish, cyanosed; the features and extremities wasted to a remarkable degree; the whole body shrunken, as by long-continued illness. The eyes are sunk in their orbits, and the corneæ present the semi-opaque hue, consequent upon diffluescence of the cells of the conjunctiva extended over it, which is the usual accompaniment of dissolution; but this alteration in cholera, makes its appearance in most cases, considerably before the actual moment of death. The liver always presents marks of great congestion — the kidney likewise, especially throughout its cortical portion. The gastro-intestinal mucous surface is highly injected, the villi appearing swollen or hypertrophied. The lungs are frequently found empty, and collapsed against the spine, in some cases congested, and similar in texture and hue to the splenized lung of pneumonia, but of a darker color. The brain and nervous centres are usually much congested, and the ganglia of the sympathetic have been found in some cases markedly so, the semilunar and superior cervical ganglia being seen by M. Raikem to present even points and patches of ecchymosis within their substance. The *muscles are*

everywhere turgid with dark viscid blood, and the muscular tissue itself of a darker coloration than usual.

The blood has lost nearly all its serum, and seems too thick and pasty to be propelled through the vessels. It has lost, therefore, not only by far the greater part of its water, but likewise its salts, its albumen, and its fibrine. These have escaped in the watery stools. Blood taken from the vessels of a patient who has died of cholera, presents the above characters, whether drawn from the veins or arteries—the smaller arteries are however usually empty. Such blood may be again reddened by oxygen, if a saline solution be added to it, according to Auguste Millet. We must regard it as established, that although impaired in their functions, and to a considerable degree destroyed by contact with sulphureted hydrogen, as contained in the miasmatic air by which the disease has been engendered,—nevertheless, the blood-corpuscles are not wholly destroyed or irretrievably injured, up to the period of death, in the most rapid or the most gradual cases. For it is known that the arterial blood is of its characteristic color as long as the pulse remains sensible at the wrist; and Mr. Latta's very remarkable and important treatment of the disease by the use of saline injections; shows that even when death is imminent and the asphyxia seems complete, the blood-corpuscles *can recover* their functions, and the blood *reassume* its proper hue in the arteries and small vessels; for a fresh tint reappears on the surface, the cyanosis quickly disappearing. And these phenomena in his experience, were repeated at each successive injection, in some cases in which that bold practitioner recurred to this mode of supplying the systemic fluids as fast as they were lost by the intestinal discharges.

Should death take place after the establishment of reaction, the post-mortem appearances above enumerated are somewhat modified. According to Craigie, inflammatory congestions of the substance and envelopes of the brain and spinal cord, are most frequently observed—and the intestinal mucous membrane presents patches of inflammation like those found in typhoid fever, as might be expected from the symptoms preceding death. It is in these cases likewise that the lungs are most notably the seat of pneumonic congestion of a hypostatic character.

In sudden or so-called "*choléra foudroyant*" the patient has seemed to enjoy good health up to the time of his attack; at least he has not complained of premonitory symptoms. Here, there appears to be nothing new in the accidents of the disease; it is only necessary to suppose an enhanced activity of its usual causes. In most cases of this sort, the malady has existed unnoticed, or unacknowledged, or perhaps concealed by its subjects; this often happens in diseases deemed contagious by the people or by governments.

In cases really of this nature, exposure of the body, already much influenced by miasm, either to great heat, with muscular exertion, in an atmosphere loaded with the emanations from the skin, lungs, and foul clothing of a vast multitude, (as among the pilgrims at Hurdwar and Mecca, in 1831, and subsequently, and likewise to an increased miasmaticity of the air induced by the putrefaction of the remains of the vast numbers of cattle slaughtered for the sustenance of these devout crowds, as well as by the effluvia of their excreta), will so speedily bring about an overwhelming of the oxydative powers of the blood, in human organisms, the air being stagnant, and ozone deficient, as to induce the fearful occurrences known in the history of Asiatic cholera, where tens of thousands have been stricken in the short period of a few hours.

TREATMENT.

Nearly every remedial agent used in practical medicine, has been employed to combat the symptoms of cholera, some of them with encouraging results in certain cases, but thus far without revealing any general plan of treatment adapted to the nature of the malady, or giving promise of any system, by which the fundamental disturbances of the balances of health, can be effectively composed, or the aberrant train of phenomena readjusted. A few medicines have remained useful adjuncts to general measures, but all have absolutely failed in really controlling the march of the disease. There are, likewise, we think, some remedial agents which are frequently used, decidedly to the injury of the patient, under the guidance of false analogies drawn from diseases of a very different nature. The signal failures of medical art in this disease, warn us against placing confidence in pharmaceutical

preparations, and lead us to approach this open field in the spirit of pure scientific inquiry; empiricism has taught us *nothing*, so far; we have to guide us, only the principles of our science.

It is generally admitted, that in the stage of cholerine, cholera is manageable. It is unnecessary to insist upon the treatment of this stage, except to recommend promptness and vigor. *Removal into a purer air*, abstinence, diluents, with opium and astringents, are usually effective measures.

But in many cases, notwithstanding treatment, cholerine passes, with greater or less rapidity into the heavy congestion of true asphyxiative cholera, through the progressive steps of hypo-oxygenation already described. The indications will now be as follows:

1st. *To restore the bodily temperature to its natural standard and to maintain it at that point throughout the disease*, to the best of our ability; it is a matter of no little difficulty, as the patient generally complains of great heat, while the thermometer shows a fall of many degrees below the normal grade. Still he must be kept warm; a fall of only a few degrees, notably retards all the vital processes. *Dry heat* should be applied to his body, and he should not be allowed to throw off the bed-covering.

2d. *To aid the languid circulation.* This is best accomplished by continual frictions of the extremities as far as the trunk; some embrocation or irritant oil is often used in conjunction with this measure. By its assiduous and effective employment, there can be no doubt that the capillary and venous congestions and stasis are abated and the blood propelled through its vascular channels to the lungs and heart. It must never be forgotten that unless the blood circulates through the system at large, it cannot pass through the *lungs*, and thenceforth asphyxia really begins. The frictions will be likewise found useful in allaying the exquisitely painful spasms of the extremities. Rub therefore with assiduity, always *towards the heart.*

3d. *To restore the fluidity of the blood.* By the loss of its serum the density of the circulating fluid is so much increased that it is not duly borne through the lungs, and a progressive and ultimately fatal asphyxia is induced. The method first employed by Mr. Latta and afterwards practised with success in some cases,

unfortunately too few, of the injection of a solution of carbonate of soda and chloride of sodium into the veins of cholera patients apparently moribund in the algid stage demands our attention, as it is directly designed and adapted to meet this indication. The most satisfactory and astonishing results are quickly manifested under its use, the patient rising from absolute collapse to a state of tranquillity and comfort, which seems about to usher in a speedy restoration of his natural functions. By the repeated injections of the saline solutions, into the veins of the arm, notwithstanding constant diarrhœa, this method has saved about one-half of the cases experimented upon *in the stage of collapse*, all of whom it is only fair to conclude from the symptoms described, would have sunk without its employment. No other treatment of cholera, in this stage, can claim as much. But it would seem that even these fatal cases, unsuccessful under the employment of the saline injections, might have been happily influenced, if the necessities of the system at this point of the train of morbid phenomena had been duly considered and properly met. It is not enough that the blood should course regularly through its accustomed channels; that it should pass through the lungs and systemic capillaries once more; for *it did so at the inception of the disease*, and *nevertheless*, the progress of the symptoms was unchecked and followed a known direction. The condition of *hypo-oxygenation* of the blood must therefore be recognized, and such means from the first, as well as during the *whole march of the malady*, must be instituted to readjust the oxydative balances, as the progress of scientific discovery has now placed at our disposal. This most important indication is therefore

4th. *To restore the hæmal balance of oxydation.*

With this view, through France and Germany, in 1832, oxygen was administered, by inhalation, but without success. It must be observed, however, that the chemical physicians of that day, used *only pure oxygen*, as prepared in the laboratory. Much is now known to depend upon the mode of preparation and administration of oxygen. To use pure oxygen is foreign to the habits of the system, and entirely unphysiological. By recent accounts, I find that using a mixture of oxygen and common air, an English

surgeon in the East, has been able to save all of fifteen patients in the *algid stage*, experimented upon. Every one recovered.

But I would unhesitatingly recommend, that the oxygen of the air of the apartment of the patient, be called into a condition of unusual activity by its ozonification. The nature of ozone is now well understood, and its powerful affinity for oxydizable substances, as manifested in the constant reactions of the atmosphere and of the blood itself, may be thus utilized in conformity with the suggestions of physiological chemistry, for the destruction within the blood mass of the products of tissue-death, and the re-establishment of the ozonicity of the blood. As in the inception of cholera, we admit that the ozone of the blood has been overwhelmed by oxydizable miasms in the inspired air, superadded to the natural products of tissue change, while at the same time, a certain portion of the blood-corpuscles are destroyed by contact with sulphureted hydrogen;—so, if ozone be now artificially produced in the air of the ward or chamber and its quantity be maintained at a due standard as shown by the use of the proper test papers, it will prove a *complement* to the lingering ozonicity of the patient's blood. For it must be continually kept in view, that the failure of this ozonicity of the blood, is really that *hypo-oxygenation*, upon which hangs the whole sequence of the morbid phenomena of the disease.

The ozonification of wards or apartments may be practically attained as follows:

1st. By the dispersion of shallow vessels containing bits or plates of phosphorus resting upon pieces of cork; the surfaces of the phosphorus being just in contact with water contained in the vessel. Two hundred square inches of phosphorus will maintain the ozonicity of fifteen hundred cubic feet of air at 6 or 8 of Scoutetten's scale, notwithstanding the presence of persons in the apartment, by my own experiments.

2d. By the use of a mixture of phosphorus, lard, and wheaten flour—spread upon surfaces of cloth. This mixture is cheap, easily used and will rapidly ozonize the air in contact with it. It presents the advantage of not being apt to take fire of itself, like a stick or plate of phosphorus.

3d. By the reaction between permanganate of potassa and sul-

phuric acid (and this mode of ozonification we regard as altogether the most available)—in the proportions of two parts by weight of the former to three of the latter. A few shallow vessels capable of holding six or eight ounces of the mixture, will be sufficient to ozonize an ordinary apartment.

In all cases the ozonicity of the ward or chamber should be tested at least *four times a day*, by the iodide of potassium starch papers; these should be hung in the apartment, and after half an hour should show 6 or 8 of Scoutetten's scale. This is the same as that used by Schonbein himself.

There is good reason to believe that the *efficient* conjunction of the *ozonification of the air* respired by the patient, *with Mr. Latta's method* of saline injection, will induce a new era in the treatment of cholera. In the worst cases, besides the ozonification of the surrounding air, it may be necessary to administer to the patient from time to time, by inhalation, a mixture of oxygen and common air (say an equal quantity of each), which may be more or less strongly ozonized by the above mentioned procedures.

Let it be well remembered that the ozonification of the air, as well as the inhalation of oxygen or of ozonized mixtures of oxygen nd common air, in other words the whole system looking to the re-establishment of the oxydative balances of the economy, can only *be effective while the blood moves easily through the vessels—therefore, only before the fluids of the body have been drained away by the diarrhœa, or after they have been restored by Mr. Latta's process.*

5th. *To neutralize* the carbonate of ammonia in the blood resulting from the transformation of urea. With this view, I would emphatically endorse the practice of administering the mineral acids, especially the hydrochloric and sulphuric, in the form of lemonade. I have found this treatment highly advantageous in typhoid fevers, where there is unmistakeably an accumulation of ammonia in the blood. So likewise in cholera, I find that a French physician has employed sulphuric acid lemonade with good success, in quite a number of cases within a year or two.

6th. By inverse reason, all preparations of ammonia, whatsoever, should be studiously avoided. As we have seen, an important element in the systemic troubles, as the cause of the spasms

and the cerebral disorders, appears to exist in the undue presence of carbonate of ammonia in the blood from an early period of the disease, and beyond doubt, as proved by the direct experiment upon the breath and blood of choleraïc patients, when the stasis becomes complete, or nearly so, in the kidneys. We must therefore beware of increasing the amount of this highly noxious element in the system, by any hope of availing ourselves of its reputed action as a diffusible stimulant; a hope, however well or ill-founded founded for disorders essentially nervous, which experience has shown to be entirely illusive in the treatment of cholera.

7th. As the blood is already overwhelmed by oxydizable agents from without, as well as by those resulting from its own reactions with the tissues, we must likewise avoid the use of any substance of an easily oxydizable nature. For this reason I am constrained to condemn, without qualification, the use of alcohol in any shape, or of any of the ethereal compounds during the algid stage. These matters are all subjected to a slow combustion in the blood-mass, which can only be effected at the expense of its already overborne oxygenation. They therefore tend *directly to enhance* the hypo-oxygenation already existing. Happily, experience has demonstrated the uselessness and injurious tendency of this "*stimulant plan of treatment.*" Every portion of such material administered to the laboring patient only establishes new demands upon his oxydative capacities and impaired respiratory functions. I would, however, regard such diffusive stimulants as phosphorus, Dippel's oil, oil of cajeput, oil of turpentine, and camphor, in small and frequent doses as calculated to be of advantage and at any rate liable to no objection.

8th. That the administration of opium in the stages of colliquative diarrhœa and collapse is productive of *most injurious consequences*, cannot be questioned. While this powerful drug and its preparations, seem to be useful adjuncts to astringents and absorbents in the stage of cholerine, provided the general congestion be not yet marked; direct evidence has conclusively shown, and theoretical considerations still further fortify its import, that most dangerous effects ensue upon their use, when the retardation of the blood-current has begun to

induce a general cyanosis, and the gastro-intestinal congestion is revealed by abomdinal eramps, and serous transudations. When applied to a transparent animal membrane through which the blood can be seen to circulate under the microscope, opium and its preparations produce a lasting and highly atonic dilatation of the minute vessels, preceded by a contraction of very short duration, or which is often absent altogether. The effect of the drug is obviously to paralyze the vitality of the tissues, producing a temporary *stasis (by failure of blood-tissue reaction)*, with vascular dilatation; or more simply, a *passive congestion.* Opium therefore produces even in a healthy organism, a marked blood-stasis; how obviously contra-indicated where such a stasis is the peculiar characteristic of disease; and the cause of all its terrible symptoms! For a number of years, struck by such considerations, I have entirely refrained from the use of the remedy and its allies, in all diseases of heavy general or local congestion, as congestive remittent, yellow fever, malarial meningitis, etc., and I have had the satisfaction of finding my decided convictions on this point, supported by the experience and concurrent opinions of medical friends in whose sagacity I confide. I must *therefore emphatically condemn* the use of opiates in any form in the treatment of this disease; except with due eaution in the early stages of cholerine.

I would recommend to the profession, a trial of the peroxide of hydrogen as prepared according to the directions of the U. S. Dispensatory. This remarkable agent may be given internally with a powerful stimulant effect, based upon its chemical composition, by which it parts easily, in contact with organic matter, with a portion of its oxygen, in the active form of ozone. It would therefore form an effective mode of supplying ozonified oxygen to the blood, by the intestinal surface, in addition to the efforts made for the introduction of this agent into the economy, through the lungs, by the ozonification of the surrounding air of the ward or chamber. I have long since proposed likewise to use the peroxide of hydrogen, in conjunction with aerial ozonification, in the treatment of yellow fever; and beg leave to invite the attention of the profession to this energetic and very curious compound which we have no doubt would be destined to play an

important part in the treatment of all diseases of miasmatic origin, were its preparation more easy. There is no reason why the peroxide should not be associated, in the treatment of cholera, with the mineral acid lemonade already advised; and in its preparation, with that view, sulphate of silver need not be used, but the chloride of carium finally resulting, may be decomposed by sulphuric acid, and hydrochloric acid thus left in solution.

Space will not allow a consideration of the treatment of the stage of reaction, with its long train of typhoid or adynamic symptoms. The proposed limits of this paper have already been far exceeded; and we therefore conclude with a short recapitulation of the treatment of the disease as already set forth, which we think advisable.

Cholera asphyxia—treatment.

1st. Maintenance of animal temperature.

2d. Strong and equable ozonification of the air of the apartment.

3d. Internal administration of peroxide of hydrogen.

4th. Inhalation of a mixture of oxygen and common air—ozonized, if the cyanosis be highly pronounced.

5th. Administration from the first,—of mineral acid lemonade.

6th. Saline injections into the veins, repeatedly and persistently employed in truly adequate quantities.

7th. Long continued frictions with volatile liniment or oil of turpentine—always *towards the heart.*

8th. *Abstinence* from the use of alcoholic or ethereal compounds, chloroform, preparations of ammonia, opiates and narcotics of all kinds.

9th. The segregation of *choleraïc patients into small and separate apartments, in buildings on the outskirts of the city, on elevated points, and into chambers in upper stories.* By all means, an avoidance *with the utmost care*, of the customary measure of collecting patients who are thus *already dying for want of pure air, into wards and close apartments, where they reciprocally destroy each other by still further inquinating the air with the emanations of their excretions, bodies, and lungs.*

ART. IV.—*The Treatment of Epidemic Dysentery, or "Bloody Flux," as it presented itself on a Plantation, near Canton, Miss.:* By W. B. HARVEY, M. D.

WITHOUT entering into a detailed statement of my theory of the nature of the disease which heads this article, I may simply remark, that in my opinion the system is poisoned, and that the "flux" is but an effort of nature to eliminate the materies morbi.

Questions might arise as to the peculiar nature, source, etc., of the morbific agent; through what avenue it reaches the system, and whether it produces a common or specific inflammation.

With such questions I have nothing to do at present; my object is more practical.

I have said that there is poison in the system, and that nature is endeavoring to expel it by the bowels, and I regard the bowel affection—the flux—as a conservative measure if kept in due bounds (for we know that nature is often excessive in her efforts). The bowels being a sort of safety-valve, my object is not so much to arrest their action as, by supporting the patient, to compensate for the losses he sustains.

The disease will run its course in spite of treatment, and my opinion is, that the great landmarks to guide us are, preservation of the integrity of the digestive organs, and judicious nourishment and stimulation. Everthing, I may say, depends upon nutrition. This must go on; and, therefore, the diet should be such as to contain the largest amount of nutrition in a given compass. I have found nothing so well suited to negroes as the essence of ham. Of this I order two tablespoonsful every two hours, day and night; and in this matter the patient's taste must not be consulted; it must be taken. I have had the satisfaction of finding that under the use of this diet, alternated with a liberal use of brandy every intervening hour, the strength of the patient was well maintained, although he may have had twenty-five to forty actions in twenty-four hours. With the exception of a little restraint upon the bowels occasionally, such is the sum of my treatment of "epidemic flux." The astringent I employ is a weak solution of Epsom salts, with a little sulphuric acid and laudanum added.

I may add that I at one time adopted the usual preliminary

treatment—of calomel, oil, salts, etc., but soon omitted it, and am of opinion that it is unimportant.

As to moving the bowels during the course of the disease, I never do it, and am not uneasy if the patient has had no fæcal or bilious action for ten days or longer. It may be asked if I never use blisters, mercury, and astringent enemas? I have rarely used blisters in this disease, and have little confidence in their efficacy. Sometimes, though rarely, there is an indication for a little mercury. I have discarded the employment of enemas. Now comes the important question—what is the result?

The epidemic when treated in accordance with the orthodox plan by gentlemen of professional merit, who preceded me in charge of the plantation, was marked with dreadful mortality. Under the treatment as above detailed, this mortality ceased. To this date (July 1857), the estimated number of the sick and convalescing is fifty. No death has occurred except in the case of an infant, who of course, could not be treated as above. I have now eight or ten cases on hand, all convalescing.

It must be borne in mind that the above remarks refer only to the epidemic or typhoid type of the disease, the sporadic being an entirely different affection and requiring treatment altogether different.

ART. V.—*Clinical Lectures on Urine, Urinary Deposits, and the Relations of Morbid Urine to Constitutional Diseases:* By I. L. CRAWCOUR, M. D., Professor of the Principles and Practice of Medicine, New Orleans School of Medicine.

LECTURE III.—*Uric Acid.*

GENTLEMEN,—In our last we discussed fully and completely the importance of Urea as one of the results of the destructive assimilation of the animal tissues. Another constituent of the urine always present is uric acid which has for its chemical composition the following formula, viz.: C^{10}, N^4, H^4, $O^{6\&10}$, HO, and for its symbol $\overline{U}$.

Uric acid in health exists in the urine in combination with a

base, by which it is rendered soluble in this liquid and therefore cannot be detected without a stronger acid, which will saturate this base and set the uric acid free. I have in this test-glass some urine to which I added, some hours ago, a few drops of nitric acid, the urine was then clear and free from sediment, but you now observe there are adhering to the sides of the glass some red crystals, and a considerable deposit has fallen to the bottom. This deposit and these crystals consist of uric acid, and on placing them on a slip of glass and submitting them to the microscope, we shall be enabled to observe the forms they assume. We notice, in the first place, that the crystals are more or less colored, this depending greatly on the color of the urine and varying from a pale fawn to a deep red. The crystalline appearances are also various, some being large lozenges, others resembling a series of cylinders superimposed one on the other, others again are long, and terminate in sharp points, all, however, capable of being traced to some modification of the rhombic prism, which is said by crystallographers to be the form whence all the varieties are derived. One having seen the crystals and learned their physiognomy, it is impossible to mistake them for anything else.

In using a microscope for the detection of urinary deposits it is not necessary to employ an expensive instrument, nor very high powers. An objective giving an amplification of two hundred diameters is sufficient for all ordinary purposes. An English quarter inch, or Natchet's number three objective are all that are required, and I am convinced that much lower powers may be used. In fact, a half inch may be employed for the detection of all the bodies found in the urine in health or disease. In examining urinary sediments, the urine should be placed in a conical test-glass (an odd-fashioned champagne glass will do), and allowed to stand for some time in order to permit the deposit to subside; a pipette is then introduced, the upper end being, as you see, closed by the forefinger until it reaches the bottom of the glass, in this way all fluid is prevented from entering, and on removing the finger, the deposit alone rises in the tube; I again close the top with my finger, remove the tube and allow a drop to fall on this glass slide, and cover it witI a piece of thin glass. It is now ready for microscopic inspection.

With regard to the chemical properties of uric acid, we observe that pure uric acid is white, has neither taste nor smell, is very slightly soluble in water, one part requiring for solution nearly fifteen thousand parts of cold water, and about eighteen hundred parts of boiling water, and when thus dissolved, imparts to the liquid a very faint acid reaction. It is completely insoluble in alcohol and ether, but dissolves freely without decomposition in strong sulphuric acid, but on pouring the solution in water, the uric acid is entirely re-precipitated.

It is completely soluble in caustic potash and soda, and is moderately soluble in the alkaline carbonates, lactates, acetates, phosphates, and borates, forming urates with the base. It dissolves very freely in the ordinary phosphate of soda, which, as you know, has an alkaline reaction; by adding uric acid, this takes a part of the base, forming a soluble urate and an acid phosphate is produced. I directed your attention to this when speaking of the acid reaction of the urine, this being according to Dr. Golding Bird one of the chief causes of the natural acidity of this secretion.

The best chemical test for uric acid is the action of nitric acid and ammonia. I take a few grains of the acid, and placing it on this slip of glass, add a drop of strong nitric acid, brisk effervescence ensues owing to the evolution of nitrous and carbonic acid gases, and the uric acid is slowly dissolved, leaving a yellow fluid. This is carefully evaporated to dryness at a very gentle temperature, a red residue is left, when cold, this is moistened with a drop of solution of ammonia, or exposed to its fumes, a beautiful purple color is produced, the purpurate of ammonia of Drs. Proot and Golding Bird, the murexid of German chemists. This test is exceedingly delicate, and will detect a very minute quantity of uric acid.

We will now examine the effect of heat on this substance, a small fragment is placed on platinum foil and exposed to the heat of a spirit lamp; unlike urea, it does not fuse, but blackens, and a strong odor of hydrocyanic acid is evolved. By continuing the heat, the whole is converted into a mass of charcoal, and finally entirely disappears. If uric acid be distilled in a small glass retort, at a low temperature, we obtain urea, carbonate of ammonia,

cyanide of ammonium, and hydrocyanic acid; you will recollect that urea and cyanate of ammonia are mutually convertible, and you now see the strong relation existing between urea and uric acid.

This relation is still further evidenced if we mix water and uric acid together to form a paste, and after raising it to the boiling point, gradually add peroxide of lead as long as the brown color of the oxide disappears. The uric acid is gradually oxydized, and is converted into urea, oxalic acid, and a substance termed allantoin; this reaction affording a probable explanation of the mode in which urea and oxalic acid are formed in the body.

In a future lecture I shall have to bring before your notice, the close connection which exists between uric acid and the appearance of deposits of oxalate of lime in the urine, and we find from recent experiments of Frerichs and Wohler that the introduction of uric acid or urate of soda into the veins of an animal is followed not only by a considerable increase in the quantity of urea passed, but oxalate of lime rapidly appears in the urine and in large amount.

These chemists found that when they introduced about forty grains of uric acid into the stomach and veins, that the urea was remarkably increased in the urine, none of the uric acid being found, but in its stead oxalate of lime.

Liebig is of opinion that the whole of the urea excreted even in health, is derived from the uric acid by oxydation.

The experiments of Neubauer prove conclusively the transformation of uric acid into urea; the amount of urea naturally excreted by a rabbit being determined, 308.8 grains of uric acid were given, this being capable of furnishing 264.5 grains of urea. The rabbit excreted 246.3 grains of urea *over* the normal excretion previously determined, thus proving that nearly the whole of the uric acid given was transformed into urea and carbonic acid. The oxalic acid in the case was not perceptibly increased.

In urinary calculi, we frequently find layers composed of uric acid alternated with oxalate of lime, and it has been a matter of common observation with me to observe that patients of a gouty habit, who ordinarily pass uric acid crystals, will frequently lose

them, they being replaced by oxalate of lime, and on many occasions I have seen the uric acid crystals studded with the octohedra of the oxalate.

The chemical history of uric acid is interesting. It was discovered by Scheele during the analysis of some urinary calculi, and from this circumstance he called it Lithic acid. It is found in the urine of most animals, but is absent from the urine of the dog. In this animal singularly enough, it exists in large quantities in the spleen, and according to the views of some physiologists, this organ is the one in which the blood-corpuscles are transformed into urea and uric acid. We certainly find in chronic enlargements of the spleen consequent in marsh fever, that the amount of uric acid is very largely increased, and in leukaemia, a disease in which the spleen is always enlarged, it was observed that the amount of uric acid daily discharged amounted to 31.5 grains, whereas in health the quantity rarely exceeds eight grains.

Uric acid was discovered and described by Scheele, in 1776, during the analysis of some urinary calculi, and from this circumstance, he named it Lithic acid from *lithos*, a stone.

The name of uric acid was given by Fourcroy, to whom we owe some valuable observations on its chemical relations.

Uric acid in the form of urate of soda or lime, constitutes by far the largest constituent of the excrement of birds, and guano (the droppings of birds), consists almost entirely of this body.

We readily prove this by exposing this piece of guano to the action of nitric acid, heat and ammonia, and we see how rapidly the purple hue, or murexid is produced. The solid urine of serpents consists entirely of urate of ammonia, and from it pure uric acid is conveniently and easily procured.

In perfectly healthy human urine, uric acid rarely if ever exists in the free state, but always combined with a base, either soda or ammonia, but most frequently both.

The quantity excreted is usually about eight grains in the twenty-four hours, but varies to a considerable extent with the nature of the food, those who live on vegetables usually excreting much less than those who live on a mixed or animal diet. Differing from urea, Professor Ranke has shown that neither sex, nor age, nor the height and weight of the body have any decided re-

lation to the daily excretion of uric acid; and even with regard to a vegetable as contrasted with an animal diet, there is little difference, provided both are equally rich in nitrogen.

The source of uric acid is probably the same as that of urea, resulting from a disintegration of the nitrogenized tissues of the body, and probably in some instances from food which has not been completely assimilated. It may be considered as a condition in which the metamorphosed tissues are in a state of inferior oxydation, and it is likely that all the urea excreted is first evolved as uric acid, and perhaps in a condition of oxydation inferior to this.

Professor Haughton, of Dublin, states, that "No uric acid whatever should occur in the urine of a man in perfect health, but that all the nitrogen of the urine should pass off in the form of urea, a more highly oxydated product than uric acid." This derives some confirmation from the circumstance I have before adverted to, namely that under some conditions of the system oxalic acid is produced, this being a product of still lower oxydation than uric acid, and occurring under circumstances which interfere with efficient oxydation, being largely found in the urine of persons suffering from pulmonary emphysema, the convalescent stage of typhus, etc.; acting on this view, I administered to a patient suffering from uric acid deposit, the chlorate of potash, a salt which is said to give oxygen to the blood; and whether *post hoc* or *propter hoc*, I know not, but certainly the deposits completely disappeared.

Water drinking also has a considerable influence on the excretion of this substance. From the observations of Genth, a German physiologist, we find, "that when he lived on ordinary mixed diet, not drinking much water, he excreted daily 0.324 of a gramme of uric acid; living on the same food, and drinking about thirty-five ounces of water, he excreted only 0.396 of a gramme; drinking seventy ounces of water, he excreted mere traces of uric acid; and when drinking one hundred and forty ounces, he exrcted none whatever."

I mentioned to you in a former lecture, how remarkably water increased oxydation and the interstitial destruction of the tissues, as proved by the large increase of urea under such circumstances.

In the experiments of Genth, although the uric acid was diminished, the urea increased from 46.6 grammes to 52.1 grammes.

Sulphate of quinine has also a great influence in checking the formation of uric acid; it is probable that this is due to the circumstance of its interfering with the destruction of tissue. Quinine like caffeine and thein having a notable power of preventing waste and thus acting in some measure as conservators of force.

It was found by Ranke that twenty grains of quinine reduced the quantity of uric acid to nearly one third of what it had been before the administration of the drug. We may couple this with the facts that uric acid is largely increased, both during and after a paroxysm of ague, and as I have already told you during enlargements of the spleen, one of the common accompaniments of this disease.

Although the quantity of uric acid discharged daily by healthy adults usually amounts to about eight grains, still this is subject to certain variations depending upon the character of the food and the habits of the individual.

Boussengault, in some experiments on ducks, found that the amount of uric acid excreted by them differed materially according to the food administered to them; thus when no food was administered the quantity of

Uric acid passed was				4.163	grains.
When balls of clay were given the quantity was				4.163	"
On a diet of gum alone they passed				4.412	"
"	casein	"	"	162.4	"
"	gelatin	"	"	157.08	"
"	fibrin	"	"	138.6	"
"	flesh	"	"	291.0	"

Again: Lehman's experiments on himself conclusively prove the influence of diet in augmenting this secretion. It must be borne in mind that in all Lehman's experiments on himself the amount of the urinary excretion was much larger than with most individuals. He found that when he lived on a

Strictly vegetable diet he passed in 24 hours	15.5	grains.
On a mixed diet	17.0	"
On a purely animal diet	21.5	"

We thus see that although a certain definite amount of uric acid results from the tissue itself, yet a very large amount may be due to food either imperfectly assimilated or over and above the real wants of the organism.

I incidently mentioned that caffein and thein, like quinine, diminished the evolution, or rather formation, of uric acid, and we find, from experiments recently made on himself by Dr. Hammond, that the reduction in amount after the use of strong coffee was very considerable. Experience has proved that in gout—a disease closely connected if not altogether dependent on the formation of uric acid in excess, the use of strong coffee acts most beneficially not only in shortening the paroxysm, but in some cases of preventing it altogether. It has been supposed that the immunity from this disease enjoyed by the inhabitants of Turkey, is due to the large use they make of coffee as a beverage, and Dr. Mosely, in his treatise on Coffee says: "The great use of coffee, in France, is supposed to have abated the prevalence of the gravel. In the French colonies where coffee is more used than in the English, as well as in Turkey, where it is the principal beverage, not only the gravel, but the gout, these tormentors of the human race, are scarcely known. Du Four relates as an extraordinary instance of the effects of coffee in gout, the case of Mr. Devereau. He says this gentleman was attacked with gout at twenty-five years of age, and had it severely until he was upwards of fifty, with chalk stones on the joints of his hands and feet; but for four years preceding the account of his case being given to Du Four, to lay before the public, he had been recommended the use of coffee, which he had adopted, and had no return of the gout afterwards."

The estimation of uric acid in the urine is very simple. The quantity passed in twenty-four hours should be collected, and if it be of low specific gravity, should be evaporated to one half of the bulk; when cold, water and muriatic acid should be added in the proportion of a drachm of the acid to about a pint of the urine; the mixed fluids should then be allowed to stand for forty-eight hours, the uric acid which will be then precipitated should be thoroughly washed with cold water, and then with alcohol, and after thorough drying, should be weighed. By this means we

estimate directly the amount of uric acid passed. The volumetric process is very tedious, and not exact, and I therefore refrain from taking up your time by entering into the details.

Like urea, uric acid is not produced by the kidneys, but is only eliminated by them from the blood.

In healthy blood, it is so rapidly removed, or changed into urea, that its detection becomes exceedingly difficult, but in gouty persons, it is either formed in excessive quantity, or the kidneys fail to remove it from the system, and it accumulates in large quantity in the blood. Its presence in the liquid is easily rendered obvious by the method of Dr. Garrod. His process, which he terms the uric acid experiment, is thus performed:

"Take from one to two fluid drachms of the serum of blood, and put it into a flattened glass dish or capsule; to this add ordinary strong acetic acid, in the proportion of six minims to each fluid drachm of serum, which usually causes the evolution of a few bubbles of gas. When the fluids are well mixed, introduce a very fine thread, consisting of from one to three ultimate fibres about an inch in length, from a piece of linen fabric, which should be depressed by means of a small rod, such as a probe or point of a pencil. The glass should then be set aside in a moderately warm place, until the serum is quite set and almost dry, the time varying from twenty-four to forty-eight hours, depending on the warmth and degrees of the atmosphere. Should uric acid be present, it will crystallize, and the crystals will adhere to the thread placed in the liquid. Under a low magnifying power these will be observed in the form of rhombs, the size of the crystals varying with the rapidity with which the drying of the serum has been effected and the quantity of uric acid in the blood."

In a state of absolute health, uric acid is never found in the urine, and even as the result of disease we more frequently find the deposits consist of urates than of free uric acid. Under certain conditions, if the urine be allowed to stand for a short time, crystals of uric acid will fall; when this occurs, it should never be disregarded, as it frequently indicates some morbid alteration, either of the general system or of the urine. It must not be imagined that the presence of uric acid or urates necessarily in-

dicates their existence in excess, as they may be precipitated when even in very small quantity, this being due to some altered condition of the urine itself; thus if the urine be very acid or very concentrated, it is highly probable that uric acid or urates may be thrown down.

If the deposit of uric acid should occur some ten or twenty hours after the emission of the urine, this is of no special significance, as it probably results from the secondary acid fermentation. If, however, it be deposited before the urine cools, or pass simultaneously with it, it demands attention, as it indicates some pathological alteration, and may lead to the formation of gravel and calculus.

We may divide the consideration of uric deposits into two classes—those consisting of uric acid itself, and those consisting of its combination with a base, or the urates; these may exist in two forms, either as an amorphous deposit or in the crystalline condition.

The amorphous urate, as it is called, and which is so frequently found in the urine when the functions of the skin are interfered with to any extent, usually exists as a reddish pulverulent deposit, sinking speedily to the bottom of the vessel, and being deeper in color than the urine which contains it. It has a very strong affinity for the coloring matter of the urine, and may be distinguished from all other deposits by disappearing completely when the urine is warmed, reappearing again on cooling, and being resolved into crystalline uric acid on the addition of nitric, hydrochloric or acetic acids. The chemical composition of this deposit has not yet been settled. Drs. Bird and Prout supposed it consisted of urate of ammonia; other observers have regarded it as a urate of soda. It usually contains several bases, lime, potash, ammonia and soda, and it may therefore be properly designated a mixed urate.

As a rule, a deposit of mixed urates, unless it should be very persistent, need not excite any apprehension. It may be produced by causes which diminish the amount of water in the urine, such as profuse sweating, violent exercise, abstinence from drink, or it may be, and more frequently is, the result of a slight febrile condition. When, however, it continues for any length of time,

it may lead to the suspicion of the existence of some organic disease. As it atways soluble in the warm urine, it need excite no apprehension as to gravel or calculus.

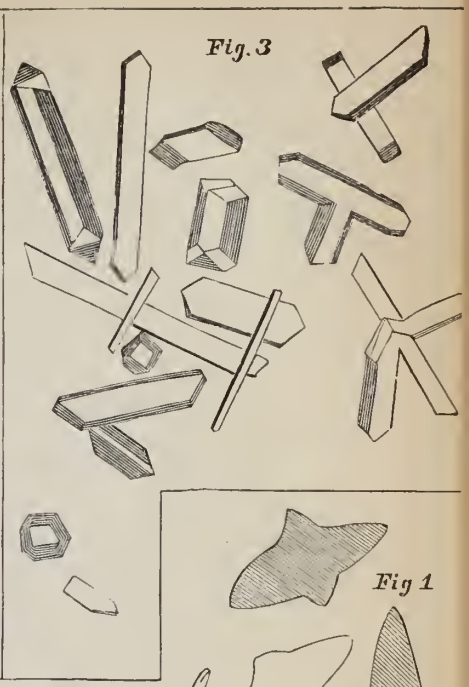
The urates are sometimes deposited in the crystalline form, the composition frequently being the same as that of the mixed or amorphous deposits. When, however, the deposit consists, as it sometimes does, of urate of soda, the form is globular, spiny crystals projecting from the circumference, these frequently consisting of uric acid deposited on the urate. This form frequently excites considerable irritation in the urinary passages, and may even lead to the formation of calculus.

With regard to the treatment of uric deposits we may regard it as both local and constitutional. The local treatment consists solely in causing the disappearance of the deposit, and this may readily be effected by rendering the urine neutral or alkaline. For this purpose we cannot do better than take advantage of the fact that when the salts of the vegetable acids, as the citrates, tartrates and acetates of soda and potash, enter the system they pass out as carbonates, and thus rendering the urine alkaline without inducing ammoniacal decomposition, As uric acid is more soluble in potash than soda, we use the salts of the former by preference, and I have usually found the citrate of potash better borne and less liable to disorder the bowels than any of the other preparations. The dose should be about thirty or even sixty grains, dissolved in a half tumbler of water, every three or four hours. When there is a suspicion of any gouty tendency, we may advantageously combine five or ten drops of the wine of colchicum with each dose.

Another remedy frequently employed is the biborate of soda, which may be given in the same dose and in the same manner as the citrate of potash. Caution should be used in administering this salt to females, as it exercises a powerfully stimulating influence on the uterus—is said to have produced abortion in some cases.

The phosphate of ammonia is also a most excellent solvent of uric acid, the dose being from fifteen to twenty grains every three or four hours.

Mr. Ure strongly recommends benzoic acid, no only as a



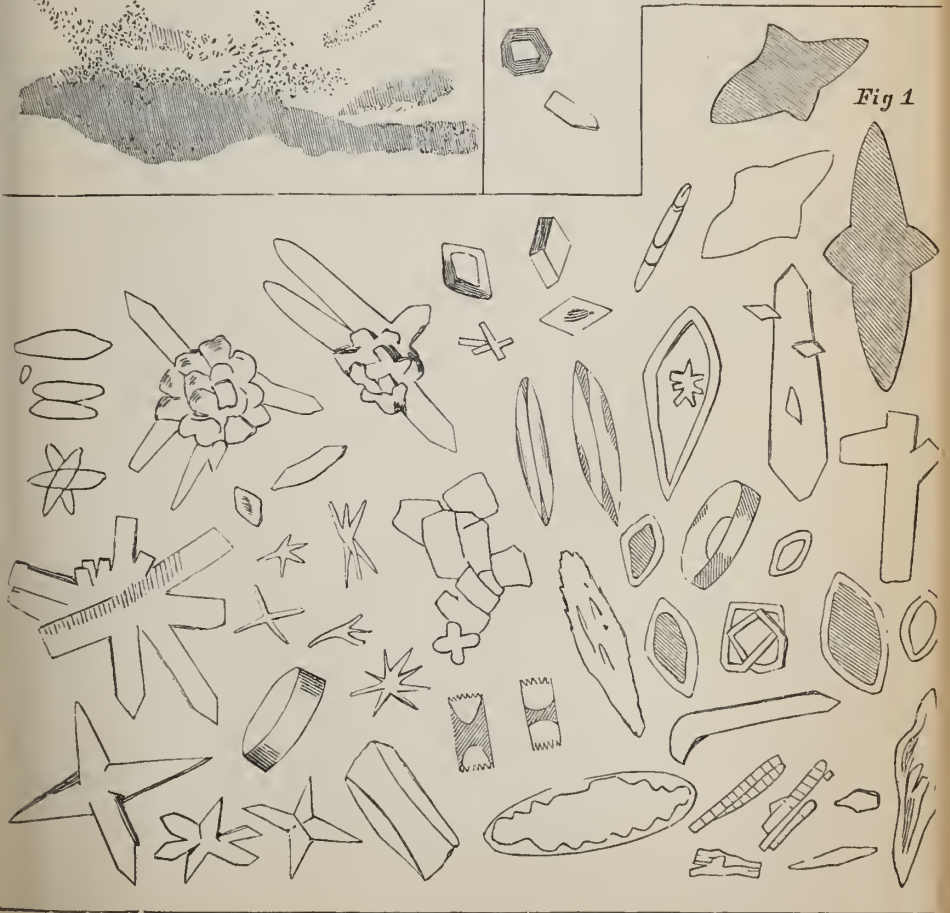


Fig. 1—Uric Acid, various forms. Fig. 2—Mixed Urates. Fig. 3.—Hippuric Acid.

solvent for, but as a means of preventing the undue formation of uric acid, for this body combines with the nitrogenized elements which would form urea or uric acid, and converts them into hippuric acid, a comparatively soluble body. The dose of benzoic acid is about ten or fifteen grains, but it is probably better to give it as recommended by the late Sir Henry Holland in the form of benzoate of ammonia, which may be prepared by dissolving equal parts of benzoic acid and carbonate of ammonia in boiling water. The solution thus obtained is nearly neutral, and possesses the advantage of acting on the skin, thus fulfilling a very important indication in the treatment of the uric acid diathesis.

When there is a history of gout or where there is any suspicion of the existence of this diathesis, I have found no remedy as efficacious as lithia, given in the form of carbonate or citrate. It forms a most soluble salt with uric acid, and rapidly renders the urine neutral or alkaline. Its great recommendation is the small dose in which it is necessary to administer it, the dose of the carbonate being five grains, the citrate about six or eight. It possesses another advantage in being almost tasteless. The only objection is its cost, lithia being at present a comparatively rare element.

The mere fact of causing the disappearance of the deposit, does not cure the patient, we must find out and remove the cause. In a large number of instances this will be found in improper assimilation of food, frequently from excess of nitrogenous articles of diet. Attention to the functions of digestion is therefore most important. We must regulate and diminish the amount of animal food, and I have often found great benefit in allowing the patient to eat meat but three or four times a week. All malt liquors and acid wines should be rigidly excluded. The medical treatment must be based on general principles. The various vegetable bitters, the infusion of columba, from its sedative action on the stomach being, perhaps the best; when the liver is at fault small doses of blue mass, or what is preferable, podophyllin in the quantity of the eighth of a grain every night will be found to act exceedingly well. The various solvents which have been recommended, also act by influencing the various functions of nutrition. In certain cases the salts of iron are necessary; we use by prefer-

ence the potassio tartrate, or the ammonio citrate. Among other agents we must not forget the influence of quinine and strong coffee, as mentioned earlier, and where gout exists, the preparations of colchicum and lithia occupy the most prominent place. I shall again refer to this when speaking of the treatment to be adopted in cases of uric acid calculus.

ART. VI.—*Observations on Diphtheria:* By Dr. H. D. SCHMIDT, of New Orleans.

AN elaborate compilation of the history, pathology, nature and treatment of "Diphtheria," by Dr. E. S. Gaillard, of Richmond, Va., which I read with much interest, some time last summer, induces me to give the following observations, made on a very severe case of this disease under peculiar circumstances.

From all that is known about diphtheria, it seems to be a disease in which the blood is primarily affected, and, as it frequently appears in the form of an epidemic, confined to certain localities, depends like a number of other diseases on some organic poison suspended in the surrounding air. For this reason, in order to illustrate the bearing of my case upon this theory, it is necessary that I should describe the circumstances by which it was preceded and surrounded.

My patient, a comely little girl of about seven years of age, is the daughter of a German gardener, whose farm is situated in the vicinity of the City Park, near the Metairie Road. This locality, usually called Metairie Ridge, is said to be somewhat elevated above the level of the older parts of the city; but, surrounded by large tracts of marshy land and numerous bogs, where, in consequence of the imperfect drainage, stagnant, as well as standing water, can be found at all seasons of the year, it is nevertheless very damp and unhealthy. Another cause to increase the disadvantage of this part of the city is the close vicinity of the Bayou St. John, the water of which—especially between the new bridge at the foot of Esplanade street and the Metairie railroad—has a

closer analogy to the liquid of a cesspool, than to the water from an inlet of the ocean. In front of my patient's house is a large, open lot, of the size of a whole square. Although there are a number of ditches dug on this place, they nevertheless fail for some reason to answer their purpose, for, after each rain, the water is found to collect everywhere upon it, and to remain until removed by evaporation. To the north of this open lot is the City Park, a great part of which is still in the condition of a swamp. Extending to the New Basin, it forms the limit of the built-up portion of the city in this vicinity, for on the opposite side of the Basin the real swamp commences, to extend to the lake. The trees of the swamp and City Park, besides interfering with the evaporation of the ground they occupy, also offer a considerable obstacle to the dry north and north-west winds in their course to the locality above referred to. The latter offers, therefore, all the conditions requisite to the breedingand harboring of miasma, and the various diseases to which every member of the family of my little patient was successively subjected during the past summer, confirm this view.

During the early part of July last, I was called to see the mother of the family, a lady of about twenty-eight or thirty years of age. She had been sick for a little more than two weeks, and during that time had been successively treated and given up as a hopeless case by two doctors; a third had only examined and after pronouncing her disease a case of pulmonary consumption, had recommended cod-liver oil, porter, etc. When I first saw her, I diagnosed a severe case of typhoid fever, strongly marked by symptoms rather belonging to the true typhus; these were, especially, a number of blue patches of various sizes and shades—"petechiæ"—found on different parts of her body, an unusual tendency to sleep, muttering delirium and stupor. I found her greatly emaciated, almost completely deaf, and still laboring under an exhausting diarrhœa. As the description of the course and treatment of the disease in this case is not essential to my present purpose, I will merely state that the patient, under careful treatment and nursing, finally, though slowly, recovered, and has ever since been in the enjoyment of good health. About the time the mother was

convalescent, a little boy of the family, four years of age, was attacked by intermittent fever, which, however, soon yielded to treatment. The father of the family, a man of middle height, well and strongly built and of a robust constitution, at the time when I attended his wife, was, on the 4th of September, when he entered my office so much altered in appearance that I hardly recognized him. He had lately been subject to severe attacks of intermittent fever. The main object of his visit, however, was to call me to see his little girl, already referred to. I found her ill with yellow fever from which, as it was not very severe, she recovered in a little more than a week. While she was convalescent, her little brother, already spoken of, had a slight attack of the same disease from which he also soon recovered. The intermittent fever of the father, too, yielded to the proper treatment, and, after this time, the whole family enjoyed perfect health. The little girl, however, though entirely recovered from the yellow fever, was still destined to pass through another severe ordeal. On the 30th of October, the mother brought her to my office, stating that she had been subject to repeated attacks of chills and fever for nearly a week, and on examining, I found she had a high fever, though her appearance was very pale and anæmic; she was also troubled by a cough. After prescribing, I sent her home at once, directing—as the family live about three miles from my office—to be sent for if she should not get better. On the third day afterwards I was called.

I have now arrived at the point where the subject which I proposed to discuss properly begins. Before entering into details, however, I wish to direct attention to certain features, belonging to diseases, usually considered and described as distinct, but which we shall see successively appear during the first part of the course of the disease in this case.

When I met the child again, she was still laboring under a fever of the remittent type, which, however, would not yield to to quinine, but persisted for several days. The tongue, was moist, covered with a yellowish white fur and slightly swollen. The cough was still present; the bowels were a little loose, though the discharges were easily kept in check by a little subnitrate of bismuth in gum mucilage and paregoric. There

was also much pain in the epigastric region directly below the sternum and extending toward the right hypochondrium; this was relieved by a small blister over its seat. There was also much disposition to sleep. The patient went on without improvement for about four days, until one morning, I found her tongue perfectly dry, covered with a yellowish brown scab, and fissured in several places; the gums were of a purplish color, and slightly tumid, with sordes around the teeth; the pulse was feeble with about one hundred beats in a minute. Moreover, the abdominal pain had changed its seat from the epigastric to the umbilical region and the abdomen was swollen and decidedly tympanitic. She had typhoid fever.

The development of the final disease had now commenced. I changed the treatment, in adjusting it to the features which the disease had now assumed, and prescribed—as I suppose most other physicians in this country would have done—*the oil of turpentine*—which, in combination with a little camphor, proved of benefit, for on the next morning I found the tongue moist, though a little swollen and covered by a white pus-like secretion; beneath the latter the surface was, as usual in such cases, smooth. Notwithstanding the favorable change in regard to the tongue, the general condition of the patient was no better. On the contrary, the typhoid character of the disease became more and more developed. The abdomen became more tympanitic and the abdominal pains increased, continuing during the entire duration of the disease, until finally a favorable change took place—the child seemed to suffer more from these pains than anything else. On the next day, the diarrhœa also returned—either caused by the turpentine or as concomitant of the disease—and the drowsiness increased. Although she might be aroused from her sleep, it was only with difficulty she could be made to speak, or even answer a question, and when at last yielding to the entreaties of her parents, it was in a bad humor and with great reluctance. When protruding the tongue she would omit to draw it back. As soon as the diarrhœa reappeared, the administration of the oil of turpentine was suspended and the former kept in check, as before, by small doses of the emulsion of bismuth, camphor and paregoric. The cough which had been

accompanying the disease from its outset, was still present, and seemed to trouble the child greatly. In the beginning I had prescribed a mild cough mixture but suspended it when the typhoid symptoms made their appearance, as I feared it might derange the stomach and depress the system too much. Besides, I had ascertained that the cough did not arise from any irritation of the mucous membrane of the trachea or bronchi, but was confined to the margin of the orifice of the larynx, and therefore let it have its course. About the second day after the tongue had become moist again, in looking into the mouth, I noticed a white exudate appearing back upon the hard palate, near the place where it is joined to the soft palate. From here it spread, in the course of a few days, over the whole mucous membrane of the oral cavity, including the fauces, and to the very edge of the lips. From the latter to the posterior arches, there was no place free from it, except the margins of the gums. The pharynx, and to some extent, the posterior arches also seemed to be clear of it, though they were considerably congested and swollen. The disease had now thrown off its last mask, and stood there in the form of *Diphtheria.*

I must here digress a moment to speak of a certain agent, used as a local application to false membraue in diphtheria, which I found highly recommended in the essay of Dr. Gaillard. I refer to bromide of iodine. It had been used in the proportion of two drops to one fluid ounce of mucilage or syrup of gum arabic, and the direction for its preparation were: to saturate an ethereal solution of bromine with metallic iodine. As the strength of this ethereal solution of bromine, however, was not stated, I found myself at a loss about the strength of the mixture when I first met with an opportunity of giving it a trial, and therefore, by way of experiment, had fifteen drops of bromine, with fifteen grains of iodine, dissolved in half a fluid-ounce of ether, subsequently adding enough of this solution to a small quantity of glycerine to render it dark yellow. Prepared in this proportion, I have used it as a local application to the false membrane in several mild cases of diphtheria occurring in my practice during last summer, and, I must acknowledge, with apparent success, for the exudate seemed to soften and was entirely thrown off in a few days. As

a local application, I have no doubt but that it might be used, without any risk of injury, in a stronger form; but as it answered the purpose so well in these cases, I confined myself afterwards to the same strength of the solution and mixture. I have as yet not employed it internally, nor can I say anything definite of the precise mode of its operation, though I shall speak of it again hereafter.

When I first noticed the appearance of the exudate, I at once applied the mixture just mentioned to it. This application, however, was not attended with the same gratifying results as in the former cases, for though it loosened the exudate, it did not arrest its farther progress. Nevertheless, for want of anything better, I continued its application.

Henceforth, during a whole week, the general condition of the little patient underwent little or no change, for while she seemed a little better on one day she would appear worse on the next. The typhoid character of the disease became more and more prominent. Besides the drowsiness, which was rather on the increase than otherwise, the circulation of the blood in the skin became more sluggish, as shown by the congestion of the veins over the breast and abdomen—contrasting greatly with the whiteness of the skin—and also by numerous small spots, both single or in small groups, of extravasated blood into the tissue of the latter; the abdominal pains still persisted, so as, at intervals, to cause the child to moan and cry. The articulation of the voice became impaired to such a degree, that after a few days had passed the child was unable to speak. This loss of speech, however, was not due to an affection of the organ of voice in the larynx, for respiration remained unimpaired, but it depended on the muscles of articulation of the tongue and fauces, which were unable to perform their functions on account of being swollen by the existing congestion in that region. In the same manner the function of deglutition was impaired, for the child could only swallow a liquid with difficulty. So far as I could ascertain, however, this congestion did not extend into the larynx but only to the margin of its orifice, from which also the troublesome though not severe cough arose. By the continued application of the above mentioned mixture, containing the ethereal solution of

bromine and iodine, the exudate became gradually here and there loosened, so that I could take it away in patches; but while this happened in one place it still extended in another. The patches of membrane I examined very closely under the microscope, as also the fæces; of the results of these examinations I shall speak directly. The urine contained albumen. During this week the child also suffered much from a rheumatic pain in the right knee-joint, extending upward to the hip; this, however, was relieved by the application of a stimulating liniment.

On the first appearance of the false membrane, and on the increase of the symptoms of drowsiness, amounting almost to stupor, I put the child at once on a solution of the chlorate of potassa with a little quinine. This I preferred to Dr. Gaillard's remedy, bromide of potassium, because I had always successfully used it, not merely in the treatment of former cases of diphtheria, but also in typhoid fever, especially in the case of the mother of this family, in which I found the stupor disappearing in the most striking manner as soon as the chlorate of potassa was administered. I was not disappointed in the case of the child, for soon the clouds enveloping the mind commenced to break and disperse, and the eyes of the little patient to brighten again. Notwithstanding this favorable change in the cerebral functions, the other symptoms continued, and the child grew weaker and became more emaciated every day; appearing a little better one day to relapse on the next. Hæmorrhages from the nose and throat also commenced to show themselves. The action of the bowels during the whole course of the disease was very irregular, for while the number of passages would be too great on one day, there would be none or very few on the following. In order to prevent the exhausting effects of a diarrhœa, the bowels were kept in proper check by small doses of subnitrate of bismuth with a little paregoric, whenever they threatened to become too loose. The discharges were very small and thin, and of a pale yellow color, being evidently deficient in bile-pigment. On account of the small quantity of fæcal matters discharged—for the child, as I shall state hereafter, continued to take nourishment throughout her course of illness—and the constant abdominal pain, especially in the upper part of the umbilical region, I commenced to

suspect the presence of impacted fæces in the transverse colon, and accordingly one day when the discharges were interrupted again, carefully administered some citrate of magnesia, followed after a certain time by an enema of tepid water, containing some table salt, soap and molasses. The effect of this remedy was gratifying, for it was followed by a passage which, though liquid, contained some pure bile and a number of small hard balls of fæcal matter about three-eighths of an inch in diameter. After this discharge the child evidently improved a little, and the diarrhœa also seemed to be arrested. On the next day again a bilious stool, accompanied by some of these fæcal balls, was obtained, but on the following, several passages, small and pale yellow as formerly, occurred without enema. Thus the disease still went on without much change, the child becoming more exhausted and emaciated, to the beginning of another week, fifteen days after I had made the first visit at the house, and nearly three weeks since she was first attacked by chills and fever. On this day she was very weak and depressed, and some doubts about her recovery entered my mind. Although her tongue was not dry, I ordered—besides the continuation of the nourishment and stimulants she had hitherto been taking—small doses of the turpentine emulsion for the purpose of farther stimulation, and then left her. When I saw her again the next morning, I found myself agreeably surprised at the great change which had taken place. The crisis was over. A very bilious stool had again been obtained during the night—very likely by the action of the turpentine—and, in all probability, had relieved the system of a considerable quantity of the miasmatic poison, thus turning the scale in favor of health. From this day the child gradually though slowly improved, until she finally recovered to enjoy better health than she ever had before.

I must here remark that during the latter half of the course of the disease of this little girl, her youngest brother, a child of about two years of age, was attacked by jaundice, from which he also, after a little while, recovered.

It has ever been my principle in the treatment of all diseases depending on miasmatic poison introduced within the blood and impairing its integrity, to furnish to this fluid—as early as the

condition of the case, and that of the stomach in particular, will admit—the proper nutritive matters essential to the maintenance of its integrity, and accordingly in this case, as soon as any loss of strength was observed—even before the typhoid symptoms appeared—I ordered small quantities of the essence of beef, to be given frequently. This, together with some light farinaceous food in the form of mucilage, the child took during the course of the disease until convalescence commenced. Fortunately for the patient, her stomach was, and remained in a condition strong enough to accept and digest the nourishment. It is to this circumstance that I chiefly attribute her ultimate recovery. I have always been inclined to think, that if the blood could be kept in such a condition as to enable it to perform its functions as far as the supply of new materials essential to the reconstruction of the various organs of the economy is concerned, the disturbing cause, being organic in its nature, must eventually be destroyed by virtue of the vitality of this fluid, and its removal be followed by the return of health.

When speaking of the false membrane upon the mucous lining of the oral cavity, I mentioned that by the application of the bromine and iodine mixture it gradually began to soften and loosen, enabling me to remove it in small patches. In this manner, the tongue had already commenced to be freed from the membrane a few days before the disease had arrived at its acme, though the child was still unable to articulate. After this period, however, the power of articulation returned, and the throwing off of the membrane proceeded more rapidly, so that when convalescence commenced the mouth and fauces were perfectly clean and the child spoke as well as ever.

It remains for me to state the result of the microscopical examinations, of the false membrane and the fæces, which, as a subject of study proved to be the most interesting part of the case. These, however, were not the first I had made on this subject. In the autumn of 1861, a number of specimens of diphtheritic membranes were presented to me for examination by Dr. Wetzel, a German physician of this city, who obtained them from a number of cases which he then attended. But these specimens were of a grayish color, while all those which I have met in my own

practice were white. It is possible, however, that the former were also originally white but had turned gray by the action of very strong escharotics, such as the chloride of zinc, which Dr. Wetzel was in the habit of using for the destruction of the membrane. I took no written notes of the results of the microscopical examinations at that time, but can still remember that the membrane consisted of exudation-cells of various sizes and forms; the largest of them were more oval, or even irregular in form, than round, and of about half the diameter of a full grown cell of the scaly epithelium; they contained one or two nuclei as large as those found in the latter. I regarded these larger cells—many of which I met in groups—as the product of a special exudation, but am now inclined to think that they were immature cells of the epithelium upon which the exudation took place; it is also possible that their form was altered by the action of the escharotic. The examinations which I made of the specimens obtained from the case just described—and which were, as far as I was able to judge, unaltered by the application of the mixture—were more thorough and can be relied on perfectly; their results differed much from those formerly obtained, and were as follows: The greater part of the membrane consisted of the mycelium and spores of a microscopic fungus, which rested upon a thin base formed by the exudate. This consisted of exudation-cells, such as are ordinarily found in effused lymph when organization commences; some of them were smaller, others larger, and the most of a more irregular form than a pus-cell. Here and there small patches of the scaly epithelium of the mucous membrane were of normal size and shape. (See Fig. I.)

In examining the fæces microscopically, I met—besides small patches of the false membrane and the elements usually found in fæcal matters—with a considerable number of fungoid filaments and spores, the latter in various stages of development; there were also many of the lower forms of algæ present. But the most interesting of all these bodies were a considerable number of some species of desmidiaciæ, ranking among the higher forms of the algæ. (See Fig. II.)

To satisfy myself of the presence of the germs of these various minute vegetations in the air, I had some water, taken from the cis-

tern at the place, boiled, and exposed to the atmosphere, in a tumbler set upon a post, about seven feet high, in the garden. In the course of five or six days, the bottom of the glass was covered with a fine flocculent matter, which, by microscopical examination, proved to consist of various species of minute fungi; among these was one which corresponded to the fungus found upon the diphtheritic membrane. Besides these, there was also a considerable number of specimens of Desmidiaciæ, some of which belonged to the species found in the fæces, and numerous infusoria; many of which belonged to the larger and higher organized families. The germs of these various vegetable and animal beings suspended in the air, had been deposited in the water and become developed in the course of a few days, and in a much greater abundance than I had observed during the late epidemic of yellow fever. The weather at this time was fine and clear during the day, with very heavy dews during the night.

Dr. Gaillard, in his essay on diphtheria, attaches great importance to the character of the exudate, and, reasoning from the microscopical examinations and views of various pathologists, undertakes to prove that it is fibrinous, and incapable of development and organization, and that, therefore, the disease must be one in which the blood undergoes a great change. Yet, while denying development and organization to this exudate, he still admits it to consist of a "fibrillation of fibrin," containing in its network—besides other anatomical elements—granules and exudation-corpuscles. To my mind, this argument appears contradictory in itself, and must be fallacious, for the mere fibrillation of the fibrin—like the formation of a crystal in the inorganic world—is already a step toward organization; and the presence of exudation-cells proves both, organization and development. When an exudation takes place from the blood-vessels, the liquid effused is homogeneous, and, in consequence, not organized; but as soon as it assumes any form whatever, *organization* has commenced. How far the exudate may advance in its organization and development, before it commences to retrograde and die, is another point of the question. Although, in my own examinations already stated, I have met with no evidence of the presence of fibrillated fibrin, I doubt not the correctness of the statements of others as far as

this body is here concerned, for its occurrence upon the mucous membrane of the air passages is sufficiently known and established—though it hardly ever is seen upon membranes of this kind in other localities—but to determine the character of the disease in question by this phenomenon appears to me a little hazardous, as I regard its appearance upon any membrane as only depending on local causes.

Up to the present time the true nature of fibrin has not been determined. We know that in the circulating blood, if it exists at all as an original body, it must exist as a fluid, or, in other words, in an allotropic state, because it is only when at rest, or at a very slow motion, that it assumes a solid form by its fibrillation. Although there is nothing definitely known about the cause of this phenomenon, it is nevertheless supposed to be due to the presence of some body which excites the fibrin to coagulation. This body, Alexander Schmidt, judging from the results of his researches on the subject, supposes to be the globulin of the red blood-corpuscles.* There are a number of other bodies which either promote or retard the coagulation of the blood, especially when removed from the living body. The many collateral conditions and influences, however, which surround and bear upon the subject when investigated, are so complicated that it would be unwise to base any theories upon the results of such investigations, especially, when made after life has departed. All we can say therefore, of fibrin is, that such a body exists in the circulating blood in a fluid state, and, when at rest—or at a very slow motion—manifests itself as a solid body in the shape of an irregular fibrillated network; this occurs either within the living body, or when removed from it. In regard to the causes and conditions, however, by and under which this change from a fluid to a solid state takes place, nothing definite is known.

When blood is freshly drawn from a blood-vessel, its fibrin is still in a liquid state. The coagulation of the latter which takes place after the blood is at rest, can be modified in various manners, as, for instance, by the contact with different chemical bodies, or even by the walls of the vessels—into which the blood

* G. Valentin. Versuch einer Physiologischen Pathologie des Herzens und der Blutgefasse, p. 187.

is drawn—according to the different substances of which they consist. Now, in the same manner as the coagulation of the fibrin—when removed from the living body—is determined or modified by certain properties of the substances with which the liquor sanguinis, containing it in solution, comes in contact, it may also be influenced in the living body—when accompanying an exudate—by the peculiar properties of the membrane upon whose surface it is effused. This would be particularly the case with serous membranes upon the surfaces of which fibrinous exudates are found more frequently than upon mucous membranes. When they occur upon the latter, it is especially upon those which line the air-passages, and it may be asked whether this is not due to the access of the atmosphere to the exudate. The phenomenon of a fibrinous exudation upon the surface of a mucous membrane, however, seems to me no sufficient reason to suppose it to indicate any surplus amount of fibrin in the whole blood within the circulation, or a peculiar constitution of that blood; on the contrary, I would rather suppose that the quantity of fibrin, contained within the exudate, was regulated and attracted to the membrane by the degree of inflammation or irritation in it. If this view be true, any fibrinous exudation, occurring in diphtheria upon a mucous membrane, must be regarded as the result of local causes.

The original cause of the irritation or inflammation of the mucous membranes in diphtheria, I suppose to be the diphtheritic poison within the blood which, in this disease, is attracted to the mucous membrane of the throat and air-passages, and even to that of the alimentary canal—probably by some peculiar elective affinity these membranes possess—in order to be eliminated from the system along with the natural secretions of the membrane. The irritative properties of the poison, however, pervert the normal process of secretion and give rise to an abnormal exudation by causing the inflammation of the membrane. In a similar manner, the poison of the various exanthematous diseases is thrown off by the eruption occurring upon both, the skin and mucous membrane. After the exudation has taken place, its products become organized to a certain degree by the formation of cells, somewhat after the type of those forming the normal epithelium of the mu-

cous membrane; but, as the nutrition of the latter has been deranged by the presence of the poison, the development of those cells is soon arrested, and they remain in an immature condition to be eventually—when a healthy action returns with the removal of the poison from the system—cast off in the form of a false membrane. The structure of the specimens which I have examined seems to sustain this view. The fibrillated network of fibrin, observed in some specimens of false membrane, depends very probably on a higher degree of inflammation, as I have already hinted at.

In regard to the microscopic fungus which, in the case above described, formed the greater part of the false membrane, I am not prepared to decide whether it may be the cause or a mere accidental effect of the disease, though I am more inclined to regard it as the latter, until proofs will be brought forward to the contrary. Its germs were suspended in the atmosphere, as the examination of the exposed water sufficiently proved, to be finally deposited upon the mucous membrane, in the morbid secretion of which they found the essential conditions to their development. Nevertheless, it is possible that the presence of the fungus may have helped to increase the pernicious symptoms of the disease. I have already stated that, in examining the fæces of the patient, I found a number of small patches of the false membrane; it is very probable that they were detached portions from the membrane in the throat, swallowed and passed with the discharges; but in considering the constant abdominal pains during the course of the disease, they may in a like manner have proceeded from another false membrane upon the mucous membrane of the small intestines, for there is much reason to believe that the glands of Peyer were affected, as is usually the case in typhoid fever.

Another question, related to the one I have just discussed, remains yet to be decided, and regards the precise mode in which the various local applications, ordinarily made to the diseased membrane, produce their effect; whether it be by destroying the fungus, and thus removing the cause of the affection—or by stimulating the mucous membrane to a healthy action and secretion, the final result of which would be the throwing off of the

false membrane. From the experiments which I made, during last summer and autumn, on the fungus discovered by me in the various vomits of yellow fever patients, I found iodine the most effectual agent to destroy it, and for this reason at first attributed the beneficial effects of the bromine and iodine mixture to a similar action; but by examining the subject a little closer, I altered my view, and attributed it more to the stimulating effect on the mucous membrane, especially as iodine is known to promote the secretions.

The remedies which I formerly used as local applications to the diseased mucous membrane of the throat in diphtheria, were borax, a solution of nitrate of silver, or the tincture of iron; and they always answered my purpose, for the exudate gradually disappeared as the patient got better. I have never approved of the use of strong escharotics, nor of any violent removal of the false membrane, leaving a raw surface behind, but have regarded such measures as irrational and unphilosophical. This practice is usually resorted to under the pretext of preventing the membrane from extending to the air-passages, and might answer its purpose, if the whole membrane always consisted of the fungus; this, however, is not the case; on the contrary, many specimens—perhaps the greater part of them—are devoid of it. The exudation is always preceded by an irritation, or, at least, by an inflammation of a certain degree, and if this should extend to, or originally commence in the larynx to give rise to the formation of a false membrane, it would be useless to attempt its removal by the application either of a violent escharotic, or mechanical means; and more than foolish to expect to prevent its formation in this locality by violently removing the exudate which covers the mucous membrane of the throat. But even if there was any possibility of removing it successfully from the larynx, it would be of no benefit to the patient, as such a proceeding would not only increase the irritation of the parts, but also cause another, and perhaps more abundant exudation to take place.

EXPLANATION OF ILLUSTRATIONS.

Fig. I—Representing the margin of a small portion of false membrane; a—filaments or tubes (asci) of the fungus, still en-

Fig. I.

Fig. II.

closing the spores (theca-spores); b—fungoid tubes nearly dissolved to set the spores free; c—empty fungoid tubes from which the spores have escaped by a rupture in the wall, causing it to shrink; small masses of spores can be seen, here and there, around the tubes; d—free spores in various stages of development, their contours are very dark, and they refract the light highly; e—exudation-cells; f—small patch of normal epithelium.

Fig. 2—Various bodies found in the fæces of the patient; a—species of Desmidiaceæ; b—fungoid filaments and spores in different stages of development; c—minute algæ; d—mass of granules, probably from the mucous membrane of the small intestine. Magnified 500 diameters.

ART. VII.—*Rabies; Patient dies thirty-seven days after being bitten by a Dog exhibiting no traces of Hydrophobia at the time, nor since:* Reported to Medical Association of New Orleans, by Dr. J. DICKSON BRUNS, March 4, 1868.

ON Sunday, January 5th, 1868, I was consulted by Dr. W. E. Brickell, of Carrollton, La., in reference to a case which he suspected to be one of hydrophobia. From his account of the symptoms I had no hesitation in expressing my concurrence in his diagnosis.

The following was Dr. Brickell's statement: He had been sent for on the evening of the day previous, at seven o'clock, to see the patient, Emmeline LaBranch, a colored woman, married, aged fifty-seven years. About three hours previous to his visit, she had been seized with violent spasms of the muscles of the neck, throat and thorax, accompanied by absolute inability to swallow fluids. She was quiet, seemed perfectly rational, and conversed hurriedly, but without apparent distress.

The skin was warm, pulse 100, tongue clean, secretions of mouth natural, bowels constipated, urine of normal color and quantity. Her appetite was good; but she had not slept well the night before, and she complained of great difficulty of breathing

whenever the spasms were severe. "There was a fiend-like expression of the eye."

The patient had ceased to menstruate for many years; had never suffered from epilepsy, nor hysteria; always had enjoyed excellent health. Thirty-five days before, she had been bitten by a dog, but she had felt no alarm about it, and the wound had healed. The dog was still living and was said to be perfectly healthy.

At the second visit, on Sunday morning, Dr. Brickell found all the above symptoms increased in severity. The spasms were more frequent and violent, and were induced now, not merely by attempts to swallow liquids, but by the mere sight of water, or of any bright object, as a mirror. The salivation was profuse, the breathing hurried, the pulse more frequent, the general distress and alarm much aggravated.

At his request, I saw the patient with him about noon on Monday, the 6th, at which time she presented the unmistakable aspect of a person in the last stage of Rabies.

On entering the room, we found her seated upright in bed, supported by her husband. The orthopnœa was intense during the spasms, which were more frequent, but feebler, than they had been. Even in the brief intervals between these, the dyspnœa from which she was now suffering prevented her lying down, though evidently much exhausted. The respiration was hurried (about 40 in the minute), gasping, shallow, and interrupted by deep sobs. The bronchial tubes were loaded with frothy mucus; moist bronchial râles heard over all parts of both lungs. Pulse 160, weak, quick, and irregular. The whole body was violently agitated by clonic spasms, the diaphragm and the costal and abdominal muscles of respiration seeming to be most powerfully affected; a puff of the breath, a current of air through the suddenly opened door opposite which she lay, a jar of the bed, sufficed to induce the convulsions. The cutaneous hyperæsthesia was excessive, the patient shrieking out if touched, and shrinking even from the *approach* of the bystanders. The pupils were widely dilated, the conjunctivæ congested, and the staring eyes rolled restlessly from side to side with an indescribable glare of mingled terror and fierceness. The lower jaw had fallen, the tremulous tongue was

half protruded, and from the twitching angles of the mouth the saliva poured in one continuous stream down chin and breast and body, literally saturating her clothes. She had retched some during the morning; but had been able to swallow a little water though with great pain and embarrassment. Her intellect was becoming disordered; but the special senses seemed preternaturally acute—the hearing and touch most markedly. The extremities were cool, and the capillary circulation in the arms and legs congested.

The scar of the bite was distinctly visible; it was situated on the anterior surface of the left leg just above the ankle, and although the wound had not re-opened, the cicatrix was livid and had an unhealthy, irritable appearance.

The only exclamation of the wretched sufferer was one reiterated, husky cry of *levez moi! levez moi!*

She died at 4 P. M. that afternoon, exactly forty-eight hours after the beginning of the attack. No treatment had been instituted, and there was no autopsy.

Dr. Brickell and myself afterwards examined the dog which had inflicted the wound. He had been kept chained, for precaution; but was then, and is, up to this date, free from any symptom of disease.

Of the nature of the case there can be, I think, no doubt. The age of the patient, her previous history, the absence of uterine or urinary disorder, the clonic character of the spasms, the impossibility of deglutition, the extreme dyspnœa, the absence of lock-jaw, the profuse salivation, the muscular tremor, the exalted sensibility of the skin, the thirst, the fierce facies, and the short duration of the disease, distinguish it, strikingly, from the only other pathological states with which it is likely to be confounded, hys teria and tetanus.

It is not my intention, at this time, to discuss the pathology of a disease whose voluminous bibliography extends from the conjectural allusions of Homer to the excellent monographs of the two Gamgees in Reynolds' still unfinished System of Medicine. Nor would it be difficult to quote a score of cases, selected from the mass of "false facts" with which the history of medicine abounds, where persons are reported to have died of hydropho

bia who had never been bitten by rabid animals. But I would call your attention to the fact that Dr. Bennett, quoted by Copland, in his treatise on this malady, refers to a case in Hufeland's Journal where the person was bitten, five weeks before the symptoms appeared, by a dog which was perfectly healthy, and which remained so after the individual bitten had died of rabies. Heretofore, this case, as far as my memory serves, was a unique one, and might have been set aside as one of those singular and inexplicable exceptions to a general law which we not unfrequently meet with in the practice of medicine. But the repetition of it in a well-authenticated case, occurring under our own observation, "must give us pause," and may at least suggest a doubt whether *the only exciting cause* of true RABIES, in the human species, is the inoculation or application, to an abraded or mucous surface, of the virus formed in a *rabid* animal.

For, either Emmeline La Branch was *inoculated with the virus of rabies* at some period antecedent to her attack, *without her own knowledge, or the knowledge of her friends;*

Or, under certain unknown conditions of the human body, *a lacerated wound*, which shall heal kindly, may, thirty-five days after its infliction, give rise to a train of morbid symptoms that cannot be distinguished, in their rise, progress, and termination, from those produced by the inoculated virus of a rabid animal;

Or, *the saliva of an animal, not presenting any symptoms of hydrophobia, may undergo such temporary change as to render it capable of communicating rabies to the human species.*

Rabies: Patient bitten six months previous to Attack; Treatment by subcutaneous injections of Morphia. Death in seventy-six hours.

Immediately after reading the above paper, I was invited by my friend and colleague, Prof. I. L. Crawcour, to visit a case of hydrophobia that had just occurred in his own practice. The patient, Mr. J. D., native of Yorkshire, England, aged 36, boiler-maker by trade, married, was a very athletic man, and had always enjoyed excellent health. Early in September, 1867, he had been bitten on the face and hand by his own dog, with which he was playing. The dog had exhibited no symptoms of sickness as far as the family had observed, but it is interesting to note that it had bit-

ten a negro servant of the same household on the same day. It's master killed it immediately after it had bitten him.

Without any previous warning, on the morning of March 2d, 1868, at 7 A. M., Mr. D., on attempting to take a drink, found himself suddenly unable to swallow, from spasm of the throat. Feeling somewhat unwell, but not recognizing the nature of the attack, he remained at home all of that and the following day. To the difficulty of deglutition, embarrassment of respiration and general spasms succeeded, with retching and vomiting. When Dr. Crawcour, who had been sent for, arrived, he found him, at 7 o'clock, P. M., March 4th, exhibiting all the symptoms of a well marked case of rabies.

I saw him in consultation with Dr. Crawcour at 11 P. M. At the first visit Dr. C. had administered one grain of morphia by subcutaneous injection, in two doses. We found the patient lying on a couch; he conversed rationally and without apparent alarm, though the facies indicated great terror; pulse, sixty-five, slow and suppressed; respiration twelve per minute, labored and sobbing; clonic spasms of respiratory and general muscles at intervals ranging from ten to fifteen minutes; pupils contracted; skin warm and dry. He had eaten and drank nothing for two days; bowels had been opened naturally; urine of normal quantity and quality; complained of intense thirst, and of the great pain of the spasms, which he said were attended by an undefined but horrible feeling of cowardice. One grain of morphia was administered by hypodermic syringe, at intervals of about a half hour, until *four* more grains had been given. Three times during the night the patient, who was a man of iron will, succeeded, by a tremendous effort, in swallowing about two ounces of raw brandy. Each act was followed by convulsions of the whole body. Partial narcotism succeeded the administration of the morphia; the skin became moist, the pulse rose, and the spasms were for a time somewhat controlled, the patient sleeping uneasily in their intervals. At daylight the pulse had risen to 135, and was getting quick and feeble; profuse salivation now set in; the spasms grew more and more frequent, and the patient died exhausted at 11½ A. M.

The negro woman, above mentioned, remains perfectly well.

ART. VIII.—*Membranous and Diphtheritic Conjunctivitis:* By Dr. B. A. Pope, in charge of the University Eye and Ear Clinic.

UNTIL quite a recent date, the knowledge of these subjects was extremely confused. The formation of a membrane upon the surface of the inflamed conjunctiva had been frequently observed, but no distinction had been made between the formation of a membrane on the surface simply, and the fibrinous infiltration of the proper tissues of the conjunctiva; which is the essential characteristic of ophthalmia diphtheritica.

It would seem that the formation of a membrane upon an inflamed conjunctiva may depend on the peculiarities of the local process; in other terms, may be a purely local disease. Instances of this may be seen in the formation of a membrane upon the surface of a conjunctiva affected with purulent ophthalmia, which is easily removed, and may or may not be reproduced; but does not lead to any special change (infiltration) in the conjunctival tissue. The formation of such a membrane does not seem to depend on the violence of the inflammation, nor to confine itself to one particular form of inflammation. Case I, is one which illustrates perfectly the form of membrane observed in the course of purulent ophthalmia.

The essential characteristic of ophthalmia diphtheritica consists in a fibrinous infiltration of the conjunctiva itself. A false membrane may form, but this is not its essential peculiarity. Should a membrane form and be removed, the exposed surface, instead of being highly red and vascular, is pale, and more or less anæmic. This diminished vascularity is caused by the infiltration of the conjunctival and sub-conjunctival tissues, which mechanically interferes with the circulation.

This type of disease seems to be the result of blood poisoning, in fact to be one of many local manifestations of a general disease.

As I propose soon to treat of these subjects more in detail, I shall here only present a few cases illustrative of the above disease, which have recently come under my observation.

CASE I.—E. E. was attacked a few days after birth, by ophthalmia neonatorum. The child was brought to me for treatment when three weeks old. The case had been previously treated by means of "eye drops."

When first seen by me, the eyelids were swollen, but externally not altered in color. The upper lids partly covered the lower, and there was a free discharge of healthy pus. Upon everting the upper lids, both of them were found covered with a thick false membrane, of loose texture and light color. The membranes covered the surface of lid as far back as the reflection of the conjunctiva upon the eyeball.

The membranes were removed without much difficulty, but not without a very appreciable resistance. The removal of the membranes was followed by a very free flow of blood from the surface of the conjunctiva, and the exposed surfaces were of a deep red, coarsely granular, and extremely vascular. The lower lids were in a similar condition, but were not covered by a false membrane. The corneæ were unaffected. Eversion of the lids was easy and not painful. There was no constitutional disturbance, and both mother and child were robust.

The membranes were not reformed, and the application of a solution of nitrate of silver (ten gr. to the ounce of water) once a day, led to a perfect cure in three weeks.

Case II.—J. Stephens, 40 years old. On the 23d of January last he had stinging pain in the inner angle of his left eye. The next day the eye was "closed," and there was some discharge of mucus and a free flow of tears. He was seen by me on the 25th, when I found that there was a free discharge of tears, of a slightly yellowish color, together with a moderate quantity of mucus. Externally the upper two-thirds of the upper lids were swollen and œdematous, and the lower third was livid and swollen. The eversion of the lids was painful and difficult. The palpebral conjunctiva was somewhat thickened, somewhat granular, especially in the cul de sac of lower lid. The conjunctival surface was of a paler red than the other symptoms would have led one to expect, especially the phlegmenous appearance of the upper lid. The conjunctival surface of the lower lid was most diseased. The lower half of the ocular conjunctiva up to the margin of the cornea was swollen, of a pale red, and less vascular than in other inflammations of the conjunctiva of equal intensity. On the lower lids there were occasional patches of adherent mucus, which were easily removed and not followed by hæmorrhage. When the sur-

faces of the lids were slightly rubbed with a soft cloth there was slight hæmorrhage at a few points. There was a rapid formation of a coat of mucus on the surfaces of the upper lids.

Unless handled the eyes were but little painful. The temperature of the lids and surrounding parts was not very greatly elevated, though there was a decided increase in the heat of the parts. There was a moderate degree of photophobia.

The palpebral conjunctiva was touched with a solution of nitrate of silver (six grains to the ounce of water.) On the next day, the 26th of January, the condition of the eye was much the same. Touched lightly on the upper margin of cartilage with the sulphate of copper and removed all excess rapidly from the conjunctival surface. It should have been remarked above that the application of the nitrate of silver was followed by the immediate formation of a white coat over the surface of the lids, and which became detached soon after its formation.

January 27th.—There was increased swelling of the lids externally, with the formation of patches of false membrane on the conjunctival surface of upper lid, over upper third of tarsal cartilage. The membrane was very thin, translucent, and of a delicate gray, apparently homogeneous in structure.

January 28th.—The entire ocular conjunctiva was swollen and of a pale red color. The false membrane was extending and becoming much more distinct. The discharge was slightly mucopurulent. The eversion of the lids was much more painful and difficult. The temperature was more elevated. There was no special constitutional disturbance. There was some sleeplessness, caused by pain in the eye. All applications to the conjunctiva were discontinued. Cold compresses were ordered to be kept applied night and day. Internally the patient was ordered to take one-tenth of a grain of calomel every two hours, and to rub mercurial ointment into the temple three times a day.

January 30th—The eye was easier, and there was a slight increase of the discharge.

January 31st.—There was no pain, but the lower lid was quite sore to the touch. The semilunar fold was much enlarged and inflamed. The diphtheritic membrane extended on the eyeball to the margin of the cornea. The chemosis was quite naked at the upper margin of the cornea.

February 1st.—The false membrane on the palpebral conjunctiva was diminishing in thickness, and disappearing at some points, but had extended to the free margin of the upper lid, as far as the mouths of the meibomian follicles, where it is of a dirty gray color. The upper lid was now slightly more vascular, and again bled at one point upon eversion. The tears, which had been previously tinged yellow, were now clear, and the discharge consists of tears and mucus. When the lids were everted, and a coating of mucus washed away, it rapidly reformed. The false membrane was thinning, and at some points eroding or falling away in patches. The exposed conjunctiva was not very vascular, moderately thickened, and of a pale red color.

February 2d.—Externally, the upper lid was more swollen, but the swelling is more œdematous than it had been. The discharge was somewhat increased, and the pain diminished. Eversion of the lids was less painful. The false membrane disappearing more and more, and what remained was very thin. The conjunctiva, where the membrane had almost disappeared, was roughened, which was partly caused by irregularity of the conjunctival surface, and partly by small patches of false membrane still adhering to the mucous surface. There is still slight diphtheritic infiltration of the upper part of ocular conjunctiva.

Cold applications were omitted yesterday. The patient has taken thirty-five doses of calomel. The mercurial inunction has been continued regularly.

February 3d.—The swelling of the lids had greatly subsided, and the discharge, which was never very abundant, has much diminished. A thin membrane had formed in lower conjunctival cul de sac, mostly towards the inner angle of the eye.

February 7th.—The conjunctival surface was more vascular. The false membrane had disappeared, except a small, thin, smooth triangular patch, on the ocular conjunctiva above, about half an inch from the margin of the cornea. This small portion of membrane seemed to be intimately blended with the conjunctiva, since it was so thinned off at the edges that it disappeared almost insensibly. The surrounding mucous membrane was thinner, and appeared elevated above it.

February 10th.—All traces of the false membrane had disap-

peared, and the swelling of the ocular conjunctiva had greatly subsided. The palpebral conjunctiva was now more vascular

The calomel was now given every three hours, as there was slight soreness of the gums. This was continued for a few days longer only.

The cornea remained free from disease throughout the entire attack.

At no age of the disease was there any decided purulence, nor did the lids adhere at night as in many other forms of ophthalmia.

CASE III.—This case occurred in an infant which was eleven days old when first seen. The confinement was easy and short, and the mother had been healthy previously. No history of a vaginal or other discharge could be obtained.

I was informed that the first symptoms of the eye affection were observed eight days after the birth of the child. I saw the case first on the 17th of December, three days after the first symptoms had been observed. The attention of the mother was attracted by the swollen appearance of the right upper lid. A little later, some pus appeared on the edges of the lid, and her mind was relieved, since she thought that that indicated improvement. On the 16th December, the left eye was found to be affected.

On the evening of the 17th December I first saw the case, and found the eyes in the following condition:

The right eyelids, especially the upper, were swollen, and the integument covering the lower half of the cartilage was of a livid red color. The upper lid covered the lower to a considerable extent. A small quantity of greenish yellow pus was observed on the edges of the lids. The eversion of the lids was difficult and painful. The difficulty arose not so much from the swelling, as from the fact that they had become hard and unpliant. Upon separating the lids, a small quantity of greenish yellow pus, mixed with what seemed to be particles of fibrinous detritus, presented itself. The conjunctiva of the lower lid was found to be covered, as far back as its reflection on the eyeball, by a smooth, grayish membrane, which was only moderately adherent to the conjunctival surface, and its removal was followed by some little hæmorrhage. The exposed conjunctiva was red and finely granular and not much thickened. It was especially on the upper lid that the

membrane had reached its highest development. After removing all discharge from the surface of the false membrane of the upper lid, it was found to be thickest in the conjunctival cul de sac, and near the margin of the lid. Along the upper part of the cartilage it was of a somewhat translucent gray, while near the margin of the lid it was covered with particles of greenish yellow fibrinous detritus which was evidently secreted from the surface of the membrane at this part. This could be removed, but here the membrane was not perfectly smooth. The membrane, as a whole, presented a rather dense homogeneous appearance, not at all resembling that which had formed in the course of Case I. It seemed to form a part of the lid, when it was everted. The membrane attached to the upper lid was very firmly adherent, and it was only possible to detach small shreds, which came away in short narrow strips, gradually thinning till they were separated, and which had a tendency, to resume the curve of the lid after they were torn away. A very small portion of conjunctiva was thus exposed, and the exposed surface bled a little at some points. The surface was of a pale red, and slightly granular, but much less so than the lower. There was a remarkable contrast between the appearance of the conjunctiva in this case and in that of Case I. It was extremely difficult, and to the patient very painful, for me to obtain a view of the cornea. There was a slight general haziness of the cornea, and a little below the centre, a circular, whitish infiltration of the epithelial layer, about a line in diameter. The ocular conjunctiva was not much swôllen, but was of an unhealthy red, and appeared to be roughened. Its appearance, in fact, indicated the *virulent* nature of the inflammation. The pupil was contracted, and the iris evidently congested, if not already inflamed. The trouble in the cornea evidently did not depend on any pressure on the nutrient vessels, but rather upon the acrid nature of the conjunctival secretions. The conjunctiva of the left eye was secreting a small quantity of white pus. The inflammation of the conjunctiva of this eye seemed confined to the conjunctival cul de sac, and there the conjunctiva was red and finely granular, but not much thickened. The lids externally were but little swollen, and did not present the redness of the skin of right upper lid. The lids of neither eye seemed disposed to adhere together.

I touched the lids, where free from false membrane, with a solution of nitrate of silver (six gr. to the ounce of water.) Immediately upon cauterizing the left eyelids, a whitish membrane formed on the surfaces of the conjunctival cul de sacs. Five or six hours after the cauterization these membranes appeared as though they would remain attached. There was at the same time less purulence and no increase of the swelling of the lids. The eyes were cleansed every fifteen minutes, and a solution of sulphate of atropia dropped into them twice a day.

December 18th.—Upon visiting the patient in the morning, I found that the cleansing of the eyes had been somewhat neglected during the night, and that in the right eye the secretions had again assumed a greenish yellow hue. The tears were also tinged of a greenish yellow. The lids were less swollen. The membrane had reformed over the right lower lid and was more developed and more firmly attached than before. The surface of the membrane of the right upper lid had become less smooth, and the diphtheritic nature of the affection had become more pronounced. No trace of a membrane was now to be found on the left eyelids. The right cornea was more affected, and the central infiltration was deeper and of a more opaque white.

The application of ice water to the eyelids was ordered, the compresses to be changed every two or three minutes, and mercurial ointment to be rubbed into the right temple every two hours, and into the axilla also. At two o'clock P. M., the discharge from the right eye was somewhat increased and more healthy. The membrane seems thinning at some points, but there is no tendency to separate; and, if possible, it seems more and more a part of the lid. The appearance of the membrane now was not unlike that which sometimes forms on syphilitic ulcers. Its thinning seems to take place by means of the suppurative process upon its surface.

It should be remarked here that the temperature of the right eyelids was much elevated, since the disease had become well developed. The pulse had been quickened, but there was no decided chachexia, and the child nursed well. The eversion of the lids seemed to cause it intense pain.

December 19th.—The upper lid of the right eye was not so

much swollen. The conjunctival surface was losing its regular curvature, and the lid seemed crumpled. The margin tended to inversion, and there were on the inner surface of cartilage two distinct and decided depressions. The process had evidently involved the whole thickness of the cartilage, for no changes which had taken place in the conjunctiva could account for the changes in the form of the lid. The membrane was now of a creamy yellow color, except towards the margin, where it was grayish. At one or two points it extended to the mouths of the Meibomian follicles.

December 20th.—There was less discharge from both eyes. The membrane on the upper lid had thinned very much, and on several spots had disappeared, leaving a pale red ground, not bleeding nor granular. The purulent discharge varied greatly in quantity and quality. As the external swelling and redness of the upper lid diminished, the redness concentrated on a line a short distance from the tarsal margin, and corresponded with the site of the most active changes on the inner surface of the lid.

December 21st.—The iritis in the right eye was on the increase, and the corneal symptoms more unfavorable. The left eye was worse, and three or four times a false membrane formed, but these were removed without difficulty, and the application of ice water to the lids prevented their return. Touched the conjunctiva of the left eye with a solution of nitrate of silver, (four gr. to the ounce of water.) A pseudo membrane formed immediately, but in the course of three or four hours had disappeared.

December 22d.—Touched the lids with a solution of nitrate of silver; a pseudo membrane formed over the lids of both eyes, but in the course of four hours had gradually disappeared. This membrane is not to be confounded with that which forms without interference, though it is probable that the material of which they are composed is of the same nature. By three o'clock the thinning of the right upper lid was decided, the infiltration of the conjunctiva lessened, and the vascularity increased. The purulent discharge was also lessened. The lids were touched again at nine P. M., and at eleven o'clock the case was progressing well. For several days I tried the use of the finest olive oil poured into the eye, after cleansing, and after cauterisations.

December 23d.—The pupil of the right eye dilated somewhat better, but still imperfectly. The cornea, except where the dense opacity existed, somewhat clearer. The iris of a reddish tint. The normal color was a deep blue. There was but little secretion except when nitrate of silver or sulphate of atropia were used.

The conjunctiva had a rather mottled appearance, caused by red spots, which were uniform and smooth, as though the surface was raw (denuded), while the rest of the surface had a slightly grayish tint. This last was probably caused by the finest possible film of the diphtheritic infiltration still remaining. There was no tendency to granulations and very little discharge. Photophobia had increased for the last three days. The cornea was generally less opaque, and the pupil tolerably dilated. The iris still discolored. There had been slight infiltrations of the epithelium about the centre of the cornea of the left eye, but to-day they had disappeared. For the last two days there had been a tendency for the secretions of the eyes to accumulate and dry on the edges of the lids, and to cause them to agglutinate at night.

This coincides with an improvement in all the symptoms.

December 24th.—There was now a yellowish tint of central part of the corneal infiltration, and disintegration had commenced. The rest of cornea was clearer, and the iritis was progressing favorably.

December 28th.—Now and then there were sudden changes from total cessation of secretion to active, healthy, purulent discharge, and this without assignable cause. The iritis was not progressing so favorably, and there was less dilatation of the pupil from the sulphate of atropia. The depressions on the inner surface of the right upper lid had become shallower. There was still some swelling of the right upper lid.

January 6th.—Had a severe and dangerous attack of bronchial catarrh; during this attack the iritis became very much better.

January 23d.—The iritis was entirely cured. The ulcer had now healed and a dense whitish opacity had replaced it.

March 9th.—The opacity reduced to about one-third its original size.

Remarks.—As has been stated above, the first case was one of ophthalmia membranacea. The second case was a mixed form,

or one of simple acute granulations, upon which a diphtheritic element was grafted. This case was very mild, as was proven by the escape of the cornea from all participation in the disease. Within a year I have observed several cases of an analagous character, and it is extremely important to study the symptoms which denote the commencement of this complication in the course of an ordinary ophthalmia.

The third case was one of peculiar interest, since it has been denied that diphtheritic conjunctivitis occurs in new born children. It is true that it occurs ordinarily in children of from two to eight years old, or in adults. When a membrane forms in ophthalmia neonatorum, it usually assumes the type of case first. As a rule the danger of a fatal termination of the disease increases with the age of the patient.

This case did not give evidence of profound blood poisoning, in fact there was but moderate constitutional disturbance. There was not the same degree of infiltration and thickening of the conjunctiva that I have seen in elder children. The discharge was somewhat different in the beginning from what is observed in the most developed form, accompanied by blood poisoning of a very marked character. However, the appearance and history of the membrane formed on the right eyelids, the absence of a highly vascular condition of the conjunctiva, the profound changes in the form of the lid, which took place so early in the disease, and the early affection of the cornea, all characterize it as essentially different from the cases described as ophthalmia membranacea. That the case should not follow the exact type of the disease in older persons, in all the details. is not sufficient to cause it to be placed among that indefinite class denominated mixed.

General Principles of Treatment.—When it is certain that a case is one of diphtheritis, that is one in which there is infiltration of the conjunctiva, with diminished vascularity and tendency to formation of false membranes, of the character above described, cauterization and the use of astringents are contraindicated. Frequent cleansing of the eye, the application of cold water dressings, and the careful use of mercurials, are the principal means of treatment.

In the early stages of the disease the application of leeches to the temples is often of decided advantage.

Now and then it is observed the use of nitrate of silver in purulent or gonorrhœal ophthalmia has an unfavorable action. The conjunctival secretion diminishes, but there is no diminution of the violence of the disease. The conjunctiva, which was before red and highly vascular, becomes pale and infiltrated. If there is chemosis, the chemosed tissue becomes hard, and when cut into bleeds little or none at all, These signs of change in the character of the disease indicate the necessity for a change in the treatment.

In a case of diphtheritis conjunctivæ it is only when the second stage of the disease has arrived, namely, that of restored vascularity and commencement of purulent secretion, that the use of the nitrate of silver can be resorted to. The third stage, or that of cicatrisation, can be but little benefited by treatment.

ART. VIII.—*Some Points Concerning the Pathology of Eburnated Cranial Exostoses:* Read before the New Orleans Medical Association, March 4th, 1868, by SAMUEL LOGAN, M. D., Professor of Surgery in the New Orleans School of Medicine.

CASE.—Thos. F. N——, aged about twenty-two, native of Litchfield, Conn. Had been in New Orleans three days. Came here from Galveston Texas. Was admitted into the Charity Hospital, February 12th, 1868, and died early on the morning of the next day.

The subject of the above notice was in sufficient possession of his mental faculties when admitted, to give these particulars, and also to inform the Ward Student, Mr. Gates—to whom I am indebted for these facts—that he had been particularly sick for only four days, but had not been well for about six months, having been troubled with frequent, obstinate, long-continued and severe pain in his head, and repeated hæmorrhages from his nose. He also said that he had suffered from "chill and fever," for six or eight weeks last summer. He was bleeding from the nose when admitted. In the course of a few hours he became

delirious, and the delirium gradually lapsed into coma, which ended in death early the next morning.

Post-mortem, two hours after death. Body moderately well nourished, but sallow. Animal heat still perceptible about trunk and neck.

As soon as the arch of the cranium had been separated and removed, its inner surface was found in that *blood-stained* and dripping condition so generally present when the encephalon is congested, and the meninges were seen corded with enlarged vessels which bulged through the dura mater. The whole meningeal circulatory system was congested, and upon slitting up the membranes all the cerebral convolutions were found plastered with a straw-colored viscid effusion of about the consistence of soft jelly. This "plastic effusion" was also found in considerable abundance at the base of the brain. About the usual quantity of serum was found in the ventricles, and the brain substance everywhere was perfectly healthy.

Upon more carefully inspecting the inner surface of the vault of the cranium, the whole of the same is found furrowed into grooves of all sizes, and in every direction, as if the whole plan of the meningeal circulation were stamped into the bone; and such in fact is the actual condition, brought about—there can be no doubt—by the pressural absorption caused by the long continued hyperæmic condition of these vessels. The vascular channels can be traced from arteries to veins, and the arborescent junction of these two sets of vessels through the capillaries,—or what once were capillaries—can in many places be distinctly made out. But something more upon careful inspection will be found. If the cleaned specimen of the cranial vault be held up to the light, a certain round diaphanous spot is detected about a half inch in diameter. At this spot the bone is very thin—in other words *atrophic;* and upon turning the specimen over and examining its external aspect, this spot is found to be of a pure white, in other words exsanguinated. Upon examining the specimen from the outside, we find that there are some other white spots which are not transparent, being evidently thicker than those which are diaphanous. Again, in another place, one of these white spots has risen above the surrounding level, and

exhibits the well recognized features of the flat eburnated exostoses often found, in their ulterior development, on the bones of the skull. In other words it seems to me that this specimen teaches us something very definite about the earlier pathological processes at the bottom of the production of at least this variety of exostosis. We seem to be able to read from this specimen, the successive steps in the formation of these homologous growths. *First*, we find a hyperæmic condition of the blood-vessels; and we infer that this state of congestion was of considerable duration, from the manner in which that congestion has, by pressural absorption, mapped out on the hard tablet of the inner lamina of the skull, a perfect plan of its circulation and of that of the meninges. In the *second* place we see a spot of a circular shape, pure white, hard, diaphanous or ensanguinated and *atrophied*. In the *third* place we see other circular spots, white and hard, but thicker than the last; and in the *fourth* place yet another larger, still thicker, even elevated, but still a white, hard, circular, flat mound—a genuine eburnated cranial exostosis, such as have often before been observed, seldom single, but often multiple, as would evidently have been the case in this instance had the patient lived long enough for the other hard white spots to have continued their abnormal development. The question now presents itself; what effect had the long continued congestion of the blood-vessels, or the chronic inflammation, if that term be preferred, in the production of the primary atrophy, or was this merely a coincidence? I think the phenomena can only be interpreted by attributing the localized atrophy to this congestion or chronic inflammation, so disturbing the harmony of the nutritive processes as to lead primarily to a local hypo-nutrition. It is admitted that chronic inflammation or continued congestion may result in atrophy, and it would seem to us that we have here just such an instance. How this atrophy is specially produced I cannot now stop to theorize about; I merely call attention to the fact of the seeming relation, as cause and effect, between the two conditions. Nor will I presume to explain the special manner in which, as it were by a kind of reactionary nutritive effort, these circular spots of local atrophy gradually seem to have become centers of local hypertrophy. It would seem that here, as in other processes

the living economy, we know not into what oscillations the nutritive function may be thrown by a primary disturbance, from any cause, of the harmony of relations which should normally obtain between absorption and deposition, these processes constituting, as we may say, the elements of nutrition.

As regards the primary cause of the last fatal attack of meningitis in this case, we can say hardly anything positive, having no previous history to assist us. I may mention, however, that both the spleen and the liver were much enlarged, and this enlargement was not from mere congestion, being of too indurated a character to admit of that supposition. The diseased condition of the bones must have been of some standing, probably dating from the commencement of the bad health from which the patient had been suffering for six months—or from the date of his malarial fever. All the other organs were in a normal condition.

I have deemed this case of sufficient interest to be at least recorded, even if my interpretation of the phenomena be shown by further observations to be incorrect, and have therefore thought it best to give the profession an opportunity to examine the specimen, which is now on the table for their inspection.

ART. IX.—*Case of Diabetes Mellitus:* By PROF. J. W. MALLET, University of Louisiana.

Mr. D. D., aged thirty years and six months, has recently been under the care of Dr. C. J. Bickham of this city, Demonstrator of Anatomy in the Medical Department of the University.

This patient had an attack of acute articular rheumatism in July, 1861, and was confined to bed or walked on crutches for a period of seventeen months. Following this there was cardiac trouble—probably pericarditis with effusion. In October, 1866, he first noticed that the amount of urine passed was excessive—had no special pain about the kidneys; had a rather ravenous appetite with more or less distinct symptoms of indigestion.

In August, 1867, he had an attack of pneumonia, coming on slowly, and affecting the right lung. He has now an abscess in

the lower posterior parts of the same lung—supposed to have resulted from the pneumonia and not from tubercles.

After the diabetic condition came on his bowels were frequently constipated for three or four days, and when they did act the amount of fæcal matter was much smaller than usual and resembled in appearance molasses candy.

Qualitative chemical examination of the urine indicated abundance of sugar, and the following quantitative results were subsequently obtained, the analysis being made volumetrically with Fehling's copper solution, freshly prepared, and of carefully determined strength. Each result is the mean of two closely accordant determinations.

Date. 24 hours ending—	Am't of Urine Passed.	Sp. Grav. of Urine.	Gram's of Sugar in 1 litre.	Grains of Sugar in 1 fl. oz.(imp)	Oz. (Av. of Sugar in 1 gal. (Imp.)	Grs. Sugar passsed in 24 hours.	Oz.(Av.) of Sugar passed in 24 hours.
1868.	Fluid oz.						
Jan. 9, 12 M.	124½	1032	66.666	29.165	10.6	3631	8.3
" 10, "	109	1033	72.464	31.701	11.6	3455	7.9
" 11, "	117½	1035	68.965	30.171	11.0	3545	8.1
Mean.....	117	10..3	69.365	30.346	11.1	3544	8.1

The patient was living upon a mixed diet during the above experiments.

The quantity of sugar discharged, amounting to an average of a little over half a pound per diem, although not as large as in some cases upon record, yet seems sufficiently large to render the case worthy of passing mention.

ART. X.—*A Simple Treatment in Aphonia, with Cases:* By WM. MASON TURNER, M. D., Philadelphia.

ALL of us, who have been in practice two years, know what a time of trouble and vexation, we have with cases of aphonia, or suppression of speech. We try this remedy and then that—we torment our brains to make out a good history of the case—to define beyond a peradventure, the true cause or causes producing this troublesome result—and then if we are not sufficiently booked

up on one account, how quickly and greedily we will consult authority—find out the utmost minutiæ of *treatment*, especially, in the premises—and on the next appearance of our speechless patient—try that treatment with a *vim*. But our disappointment is great, and our chagrin considerable, when we speedily see that our special, our carefully collaborated treatment, effects nothing, and our patient is still obstinately speechless. And then our treatment is changed—another adopted, and so on—until we wish the patient was——out of our office forever and a day! and that we might never again be afflicted with such. In other words, the treatment of aphonia, from whatever cause, it may exist, is tedious, and, everything considered, is discouraging to the practitioner, as well as to patient. It is very true that the new lights we are receiving from laryngoscopy, aid us to a considerable extent in grappling with this complaint—but only so far as diagnosis is concerned—and if we are practised at it,—in allowing us to apply topical medication skilfully.

Ambrose Tardieu, thinks aphonia, in nine out sixteen cases due to hysteria. Dr. Wood only treats of it as a nervous affection, and so do Dunglison and Watson. But is it not far oftener a purely mechanical disease—that is a derangement from outside influence of the vocal mechanism? I think so. I have had several cases in which the idea of hysteria was simply nonsensical—and from *one* of my patients certainly, had I even hinted at hysterics, I would have received a box on the ear.

But as good luck would have it, I have of late been flatteringly successful in my treatment of aphonia. As good examples, I will briefly give two cases.

Case I.—Mrs. R., aged thirty-five; full habit, but a mixed jaundice and waxen hue, widow, lungs sound, heart ditto, not subject to colds, bronchitis, or catarrhs, in fact very seldom sick with anything. Two months before presenting herself to me for treatment, had inadvertently sat a few moments in a draft; that night felt some little irritation and dryness about the fauces and throat generally; could not swallow except with difficulty, the saliva collecting in the mouth. And when taking a drink of water, or any solid substance especially, felt the impression a long time afterwards as of a round solid body in the throat; gave her

great distress. All this came on in one evening. The next morning, same symptoms, and the next morning, and so on. Gradually there came about a suppression of speech, which at last became very marked. Then came all the wise treatment of the "old women;" then, in natural succession, all the famous tar preparations and throat *sure cures* (?) generally, from all the learned "professors," and then, as a *dernier resort*, she consulted a physician. I chanced to be the individual. On examining the throat with a laryngoscopic mirror, I found everything normal except that the walls of the throat were flaccid, almost *flabby*, were as white (and whiter than) as washed beef; that the vocal cords were relaxed and vibrated but little under the most powerful expiration. Diagnosing the case as aphonia, from paralysis—partial at least—of the laryngeal muscles—I directed external friction, and then with a wash of tinct. ginger and tannic acid, brushed out the throat violently. There was some response to this, a reddening of the mucous membrane, and a stiffening up of the vocal cords. She visited me again, and I performed the same manipulation on the throat. Directed her to imitate me as I uttered, with a loud expiration, the vowels *a*, *o*, *u*!! and ordered, to-wit: ℞ potass. chlor. sacch. *aa* ʒi. Powder separately and mix with a card. S.: a pinch of the powder slowly dissolved in the mouth and swallowed four times a day.

One week after this Mrs. R. presented herself and could say, "good morning, doctor," very well. Continued potass and sugar. She again presented herself speaking very well. To-day she speaks as loud as I can. Time of treatment three weeks. Saw patient three times.

Case. II.—Josephine Schnipp, a fine, robust, healthy German girl, aged twenty-four. Never knew what sickness was until she was "struck dumb." Lungs of leather, and shoulders like a Farnese Hercules; weight, 150 pounds. Of course she was sound. Fifteen weeks before she presented herself to me for treatment she was ironing, and the room became too much heated, she threw the door open and ironed more comfortably; a cold piercing wind was rushing down the street, she soon felt it and with a deep shiver she closed the door. The next morning when she awoke her throat was swollen, externally hot, tense, burning, and very

sore; deglutition was almost impossible. The "old women" were again called upon, and this time sensibly directed some fomentations. The painful symptoms disappeared, but a complete aphonia remained with the poor girl. Here, again, all the vaunted specifics of nostrum-vendors were thoroughly tried, but without avail, and I was finally consulted. On examination found the walls of the throat as in the case of Mrs R., but the cords seemed congested, and about the rima glottidis there was likewise a passive congestion, with here and there little excrescences resembling miliary tubercles. Directed as follows: ℞. acid tannic, ℥i; alcohol absolute, ʒiij; aqua creosoti, ʒiv. M. S. Use as gargle. Friction on throat and slight aperient. On the next visit I found the congestion about the cords and glottis gone, leaving the parts white and flabby, as were the walls of the throat. Brushed out the throat, down as far as the ponum Adami, with strong tinct. ginger, and continued gargle. On the next visit again washed out throat and discontinued gargle. And this washing out I continued for several visits. There was a reappearance of the congestion about the cords, and I then ordered as follows: ℞. potass. chloras, ʒii; pulv. kino, gr. xv; sacch. alb., ʒiiss. M. ft pulv. secund. art: S. A pinch dissolved on tongue and slowly swallowed three times a day. Outside friction, and an occasional sudden grasping of the throat in the neighborhood of the thyroid cartilage.

On the next visit there was a marked improvement. As she was a German girl, I directed her to make frequent use of the German gutterals—to endeavor to form sound as *low* down as possible. On her next visit she was still improving. Treatment continued. At this writing, she can speak loud enough for me to hear her across a large room. I have no doubt but that the case will go on to a perfect cure. In fact, it may now be considered cured — and that cure consisted in *waking up* the laryngeal muscles and the cords. Certainly the remedies used were simple. Will not others of the profession give them a trial in similar cases, and report result?

CHRONICLE OF MEDICAL SCIENCE.

REVIEW OF FRENCH MEDICAL LITERATURE,

BY DR. EDMOND SOUCHON OF NEW ORLEANS, LA.

INTRODUCTORY.

We inaugurate, in this number, a new plan of giving an account of the medical proceedings in France. Instead of selecting a few of *the most* interesting cases, and giving a translation almost literally of these cases (as is pretty much the custom,) we thought it preferable to make our readers acquainted with *all the facts of some interest*, but in as few words as possible, and giving only the principal points or the substance of these facts or cases, making thus a sort of synopsis of the whole. Those who will feel an unusual interest in a case, are referred to the journal in which the article has been published; for this purpose we will always be careful to give correctly the name of the paper and the date. Information, copies in handwriting, and translations of articles, can be had by applying to the editors or to the writer of this department.

In order to be systematic in our exposition of the numerous facts, we have divided them according to the several branches of medical sciences, i. e.: Anatomy, Physiology, Pathology, Practice, Materia Medica, Therapeutics, Surgical Pathology, Surgical Instruments and Appliances, Obstetrics, Diseases of Women and Children, etc. We will also keep our readers "*au courant*" of the discussions going on before the scientific bodies of France, (Academie des Sciences, Academie de Medecine, Societe de Chirurgié, Societe de Medecine, etc.) Under the head of Miscellaneous we will speak of all that does not properly belong to any of the other headings. Lastly, the name of Bibliography will have reference to the books we receive, to those which are analyzed in some of the French papers, and, also, to those whose title and authorship are likely to prove interesting.

Such is the plan we propose to follow in future. If it proves to be unsatisfactory it will be most easy to return to the old beaten track, which does not require half the labor.

ANATOMY.

Dr. Sappey has discovered several unstriated muscles in the orbit and in the eyelids. The most important is the *orbito-palpebral.* It corresponds to the termination of the tendon of the elevator of the eyelid. It has been looked upon, up to this time, as belonging

to that tendon itself, and, therefore, as being of an aponeurotic or fibrous nature. Its function is to assure and maintain a perfect contact of the edge of the lid against the eyeball. The others are the *internal* and *external orbitary*, corresponding to the tendinous fasciculi, by which the broad ligament of the lids is attached to the circumference of the orbit.

The last is the *inferior orbitary muscle*, which occupies the spheno-maxillary foramen.—*Gazette Médicale, Nov. 2d*, 1867.

PHYSIOLOGY.

A case, very interesting under a physiological point of view, presented itself at the Hotel Dieu, in the wards of Professor Richet. It was a wound a little above the wrist, injuring the tendons of the palmaris longus, flexor carpi radialis, flexor sublimis digitorum, and also of the *median nerve* which was *completely divided*. The most interesting point connected with this case is that the peripheral end of the median nerve was painful, when touched, whilst the fingers to which the branches of that nerve were distributed, retained the property of feeling. There are but two very well known cases of complete division of the median nerve *alone*, and they both were observed by Dr. Nélaton, who witnessed the same phenomena. To explain the persistence of the sensibility, it was said that in these cases there must be some anomaly in the median nerve or the others, some anastomoses, but neither Professor Richet, nor Dr. Sappey, who are profound anatomists, have ever heard of, had or seen any such anomaly. Dr. Richet came to the conclusion, that the sensibility of the peripheral end of the median nerve upon being touched, was sufficiently explained by the *nervi nervorum* discovered by Dr. Sappey, and which, in this case are furnished to the median nerve by the radial and the ulnar, in the palm of the hand. As for the preservation of the tactile property which the fingers retained, Drs. Cruveilhier and Robin have demonstrated that on the fingers the corpuscles of tact receive branches from the median, the radial and the ulnar, which thus freely anastomose, so that it matters very little which of these three nerves is wounded, the tactile property will always be preserved, and cannot be lost except all three be completely divided at the same time on the same subject.—*Union Médicale, December* 10, 1867.

PATHOLOGY.

Dr. Broca read before the Academy of Sciences, a very interesting paper on a new group of tumors which he calls *odontoms*, and which he affirms to be formed by the hypergenesis of the transitory or permanent dental tissues.

The most general result of my researches, says Dr. Broca, may be included in this proposition, that any tumor formed by one or several dental tissues, is due to the dentification of a soft tumor of the same form and volume, which, in its origin, contained but

the hypertrophied odontogenie tissues; that the hypertrophic tumor is to the dentified tumor, what the normal dental bulb is to the normal tooth. — *See for details, etc., Gazette Médicale, Jan.* 11, 1867.

PRACTICE OF MEDICINE.

Dr. Cavasse, read before the Société de Chirurgié, a very interesting report of a case of hiccough in a girl ten years old, lasting for several months, caused by lumbrici. She had very often vomited during her attacks of hiccough, and some lumbrici were seen in the vomited matters. Moreover, she had often expelled them by the anus. Vermifuges were administered, worms were expelled, and the accidents ceased for over a month. They returned after that time, but a vermifuge being administered again, it was followed by a new expulsion of lumbrici. Cure has been permanent ever since. In the discussion on this case, Dr. Jacquemin cites a case of epiliptiform convulsions from the same cause, and Dr. Perrin states that in two cases where vermifuges had failed, he had succeeded in obtaining the expulsion of the lumbrici by using an injection of half a spoonful of oil of petrole to a quart injection.—*Gazette des Hopitaux, Sept.* 21, 1867.

Mr. Georges Dieulefoy, an interne of the hospital, reports three cases of sudden death with convulsive symptoms occurring in the convalescence of typhoid fever, which, during its course, had presented nothing whatever unusual. Two autopsies were made, and no unusual appearances were found. Whether death was caused by asphyxia, or syncope, remains to be settled; also, whether the convulsive symptoms were accidental complications, having no connection with typhoid fever, or were in consequence of the disease itself.—*Union Médicale, Oct.* 19, 1867.

[They were probably produced by cerebral embolism.—Eds.]

Dr. Lino Ramire of Mexico, publishes two cases of obliteration of the jugular veins, occurring as complications in the course of organic diseases of the heart. The cardiac affection had presented nothing unusual. The patient was suddenly seized with the ordinary symptoms of venous obstruction. The autopsy was made in one case, and it was found, besides the organic disease of the aortic valves, that the jugular vein was filled with a coagulum, dark in color, and without adhesion to the walls of the vein. From the symptoms, and from the anatomical examination of the parts after death, there is no more reasonable way of accounting for the venous obliteration than to say it is due to a spontaneous coagulation of the blood resulting from a general state and from some alteration in the constitution of the blood.—*Gazette Médicale, Nov.* 23, 1867.

[Nothing is more common than to find these coagula in such cases after death; the stasis of the blood caused by the heart disease is sufficient to account for them.—Eds.]

A patient was taken suddenly with pain around her waist, with jaundice, constipation and discoloration of the fæces; there was no fever; nine days after, a tumor made its appearance at the epigastrium which had an obscure fluctuation. Prof. Michell diagnosed a dilatation of the biliary ducts, from retention of bile, and would have punctured the tumor at once, had he been sure that adhesions existed between the dilated ducts and the abdominal walls. He concluded to make sure of these adhesions by opening the tumor with Fillo's caustic, but the patient died forty-two days after she had been taken ill, without the tumor being opened. The autopsy showed a colorless obliteration of the common bile duct, the gall bladder being very small, but the biliary ducts were considerably dilated. There were no adhesions between the tumor and the parietes of the abdomen.—*Idem. from Soc. de Méd. de Strasbourg, March*, 1867.

MATERIA MEDICA AND THERAPEUTICS.

Dr. Rambert, of Chateauden, recommends the use of the lining membrane of the nasal cavities, as a medium of absorption for remedies in cases of very painful diseases of the head, and in certain cases of diseases of the eye. He has obtained very good effects from the administration of pulverised morphine, 1 grain, to sugar 17 grains, by this new method in cases of neuralgia of the face and head.—*Gazette des Hopitaux, Oct.* 1, 1867.

SURGICAL PATHOLOGY.

As an accident resulting from the *use of arnica externally*, in cases of bruises, wounds, falls, etc., Drs. Galasse and Mazzoni, of Rome, describe an eruption resembling that resulting from frictions with croton oil, with redness and swelling, very much like erysipelas, and accompanied with fever.—*Union Médicale, Oct.* 1, 1867.

Dr. Bornet, at a meeting of the Société de Médicine, relates a case of recto-vesical fistula, characterized by purulent urine, by expulsion of gas by the urethra, and by the presence, in the urine, of red bodies resembling small clots of blood, which were found to be particles of food more or less modified. The phenomena were intermittent.—*Gazette des Hopitaux, Oct.*, 1867.

Dr. Broca thinks that there are three anatomical varieties of Potts' disease of the vertebra, viz.: 1st, caries; 2d, tubercles; 3d, vetebral polyarthritis, well studied by Ripoll, of Toulouse, the intervertebral discs being generally destroyed. It is *usually* followed by a gibbosity which is *rounded* and not angular, as in the other cases.—*Union Medicale, Dec.* 7, 1867.

Dr. Liégen relates several very interesting cases of diseases of the hair. The first is the case of a young man who is and has always been quite healthy, who has lost all the hair on his head,

face and body, without any cause whatever to account for it, except, perhaps, some moral anxiety.

(We are personally acquainted with two gentlemen affected with the same disease, one of whom especially had a beautiful and abundant head of hair, and full beard, and now not *one hair* can be found on his face, head, or body.—S.)

The second case is that of a woman who, during the course of a proteiform disease, lost her hair several times, and, finally, forever.

The third and last is that of a young man affected with craniofacial neuralgia, whose hair and beard, which were brown, became gray, but on the side of the neuralgia only.—*Gazette des Hopitaux, Oct.* 1, 1868.

[This case is by no means of an unusual occurrence, as many recorded instances are to be found.—EDS.]

Dr. Péan relates a case of a most interesting character, occurring in a young woman twenty years old, affected with what was thought to be an ovarian cyst. Dr. Péan, who has already been successful in ovariotomy, resorted to the operation, but after having penetrated the abdominal cavity, found that the ovary was healthy, and that the cyst was one of the spleen, which was considerably hypertrophied. This, however, did not stop the operator, and he at once proceeded to its complete extirpation. The reading of the details of the case, [see *Union Médicale*, Nov. 26, 1867,] show that the diagnosis was very difficult, and we are satisfied that it must have been so, indeed, to lead Dr. Péan into error.

The patient recovered. The operation in itself, and the result, caused a great deal of interest and excitement in Paris. It caused Mr. Magdelain, the "*Interne*" of Dr. Péan, to make researches on this point of science.

He found that thirteen cases had been recorded. Seven of these were wounds of the abdomen, with hernia of the spleen, which was excised totally or in part. All the patients recovered. The remaining six cases were operated upon for various diseases of the spleen. In these are included the case of Dr. Péan, and another case on which Dr. Rœberlé, of Strasbourg, operated two weeks after Dr. Péan. This last class of patients have been less fortunate, four died. Dr. Rœberlé's patient died a few moments after the operation from hæmorrhage.—*Union Médicale, Dec.* 3, *and Dec* 7, 1867.

Dr. Gosselin, now a Professor of Clinical Surgery, in Paris, describes under the name of *Cirsoid arterial tumor*, a special lesion of the arterioles or veinules, occupying a place between the *erectile tumor*, affecting the capillaries and the *Cirsoid aneurism* of Breschet, affecting the larger divisions of the arteries. The pathology alone of *Cirsoid arterial tumors* had been studied by Dr. Ch. Robin, and it is the first and only paper in which that disease is considered by itself, it usually having been confounded with erectile tumors or cirsoid aneurisms.

Cirsoid tumors are frequently seated on the head, in the cellular tissue. The vessels are very flexuous, frequently anastomose, and they are agglomerated in a bunch under the skin—their most striking feature.

In a few cases the disease seemed to originate from an injury, but it is usually developed spontaneously; it is sometimes accompanied by a dilatation of the surrounding branches. They have been witnessed only on patients from eighteen to forty years of age.

The symptoms are: prominence of the tumor, pulsations isochronous with the pulse; sensation to the finger of multiple flexuous cords by pressure; reductability, a blowing murmur, either intermittent, as in ordinary aneurisms, or continuous and jerky, as in varicose aneurisms; hæmorrhages, from rupture of the tumor. It might be confounded with aneurism or encephalocele.

Dr. Gosselin rejects all the operations proposed to this day, and gives the preference to injections of perchloride of iron in the tissue of the tumor, which Nélaton and Michon have already employed.—*Gazette des Hopitaux, Oct.* 1, 1867.

SURGICAL INSTRUMENTS, ETC.

Dr. Roussel, of Geneva, has invented a new instrument for transfusion of blood. It rests on two new ideas: 1st, To surround the taking of the blood with a cylinder opened at its two extremities, deprived of air and impermeable to the air. 2d, To practice venesection under water, and propel the blood in a channel filled with water and void of air, connecting directly and hermetically the vein which furnishes the blood with the vein which receives it.

We will not give a detailed description of the instrument, as it indispensable to see at least the drawings to understand it and its mechanism.—*Union Médicale, Nov.* 26, 1867.

OBSTETRICS AND DISEASES OF WOMEN.

Dr. Kauffman has written a paper on the use of air as an obstetrical means. It can be condensed as follows: 1st, The rarefaction between the utero-ovular points of attachment is indispensable for the fixation of the ovum, and for its development. 2d, The interposition of air between the points of attachment is indispensable for the separation of the ovum, for the accouchement and for the delivery. The author says he has invented an instrument to facilitate the latter effect, but he does not describe it.—*Gazette des Hopitaux, Oct.* 10, 1867.

Dr. Gallard proposes to treat cancers of the uterus by injections of perchloride of iron, with Pravoz's syringe, around the base of the tumor. He does not expect to cure the cancer, but he thinks it stops the disease for sometime.—*Gazette des Hopitaux, Oct.* 3, 1867.

Dr. A. A. Lempereur has written a paper, on the changes

which the fœtus undergoes after its death, in the uterus. The conclusions of the author are the following: If it die in the first period of its development, the embryo will undergo a dissolution more or less complete, and the placenta may still continue to live till the expulsion of the dead ovum. If death occur in the second stage, the fœtus will become thin and dessicated, which change is called *mummification*. If the fœtus cease to live when in the last stage, it undergoes a special change, characterized by a progressive disorganization, without odor or production of gas, and called *maceration*.

As regards extra-uterine impregnation, he thinks he is justified, from several cases on record, in admitting the osseous or calcareous encystment of the ovum, the induration of the fœtus, and the petrifaction, *i. e.*, the infiltrations of the tissues by salts of lime.—*Gazette des Hopitaux*, *Oct.* 3, 1867.

Dr. Hamon (de Fresnay) has invented a new obstetrical instrument, the Retroceps. It is applied behind the head of the fœtus; (*retro capio*, I seize behind,) whatever the presentation and the position may be. The ordinary forceps acts in such a way that the head is seized by two extreme symmetrical points acting thus on a space corresponding to a half of a circle, whilst the two branches of the retroceps seize the head posteriorly near one another, like the hand would, acting thus on a space corresponding to a fourth of a circle. It is nothing more than a "*cuille double*," double vectis, more or less open, according to the size of the head of the fœtus; it represents an artificial hand, is of steel, strong and powerful. It is composed of two branches, each articulated at the extremity of a transverse handle; they are so disposed that the right branch can undergo a movement of rotation on its axis, (it is the *pivoting* branch) whilst the left branch may be moved outwards, inwards, or laterally.

The description of the instrument is accompanied with engravings, and it is indispensable to examine them carefully, and to read attentively the very minute description of the instrument to understand it, and to understand the way it works. It seems it has met with great success abroad.—*Gazette des Hopitaux*, *Oct.* 5, 1867, *and Dec.* 7, 1867.

Mr. Theophile Ange, has written his thesis on *Lymphatic Erectile Tumors* (Adenolymphocele). The following are his conclusions: The disease consists in varicose dilation of the lymphatic vessels *in* the glands—it is more frequent in warm climates—it has its seat of predilection on the glands of the groin, and probably of the viscera,—it is due to a general cause, unknown in its nature, and capable of extending its action over the whole of the lymphatic system; it forms soft tumors, of a spongy character, partially reducible, and easily confounded with fatty tumors, with subcutaneous venous tumors and herniæ; it is not of much gravity in itself, but it renders the patient liable to inflammatory accidents which are rapidly mortal; any surgical interference is followed by grave complications.—*Union Médicale*, *Nov.* 26, 1867.

QUARTERLY RECORD OF SURGERY.

COLLATED BY SAMUEL LOGAN, M. D., PROF. OF SURGERY, NEW ORLEANS SCHOOL OF MEDICINE.

Extraordinary Case of Recovery after Severe Injury to the Head. Occurring in the Practice of Drs. Jewett and Inman; reported by Dr. M. JEWETT. Middlebury, Summit County. Ohio.

ON the 14th of May, 1867, we were called to see Joel Lenn, a Frenchman, aged twenty-seven years, a coal miner, under the following circumstances:

While blasting coal in the works of Messrs. Cross and Payne, near this village, the blasting barrel (a five-eighths inch gas pipe four feet in length) struck him near the external angle of the supercilliary ridge of the right side, fracturing the bone, broke down the supra orbital plate, protruding the eye considerably, passing through the right anterior lobe of the brain, lacerating the longitudinal sinus, passed through the left middle lobe, and emerged from the head at a point about an inch and a half above and behind the left ear.

The whole of the rod did not pass through the head, but lodged after entering about one-half its length, and was extracted on the spot by his companions, not without considerable difficulty and force, owing to a bend in the portion of the rod in his skull.

For several days he lay in an almost perfect state of coma, with little or no hope of recovery. Cold was applied to the head, the bowels were with difficulty opened, requiring large doses of podophyllum and calomel, which, with abstinence, had the effect to dislodge an old boarder, in the shape of a tape worm seventeen feet long, for which he had been previously unsuccessfully treated.

The wound was kept open by frequent deep probings, and the head kept in a position, as far as possible, to favor drainage. Fragments of skull, coagulated blood, and broken up brain tissues were freely discharged, which gradually relieved the pressure and, of course, the coma.

About the twelfth day he began to show signs of consciousness, would take nourishment, and at times would appear to understand what was said to him. A stimulating treatment was resorted to from the commencement. He gradually improved after the third week, and in eight weeks from the time of receiving the injury, was able to leave his bed. There was, at no time, any marked paralysis.

Physically, he now seems as well as ever. He seems to be perfectly rational, and will reply correctly in *monosyllables* to questions, but is entirely unable to *connect words*. He succeeds

best, when exeited, in swearing in French. This difficulty shows that that portion of the brain eontrolling speeeh was seriously and probably irreparably injured. Up to this date, January 24, 1868, over eight months from the injury, he shows no improvement in this partieular. The amount of mental power is also mueh impaired.—*Western Journal of Medicine.*

A Case of Dislocated Spleen simulating Aneurism of the Abdominal Aorta.

——, admitted to the Hospital of the Good Samaritan, in Oetober, 1867. He states that several months ago he had an attack of remittent fever and jaundice. Soon after he observed a gradually enlarging tumor, in the epigastric region, which gave him a great deal of anxiety He began to fail in health, and became very weak. He did not experienee any disturbanee in his digestive functions, but his appetite was poor.

Symptoms on admission.—He is pale, anæmic and feeble. His countenanee is dejeeted. He has a prominent globular tumor, distinetly pulsating, in the epigastrium, extending upwards both into the right and left hypochondrium, and downwards within an ineh of the umbilieus. The whole of this region is flat on pereussion. The fingers can be insinuated for a short distanee under the ribs of the left side, but there is no corresponding unoccupied spaee on the right. The tumor appears to be eontinuous with the left lobe of the liver and with the spleen. A strong, heaving impulse is felt when the hand is laid upon the swelling, but there is no thrill. Strong pressure gives rise to pain and uneasiness. On careful stethoseopie exploration, no *bruit* can be deteeted, except by strong pressure on the inferior margin of the tumor over the aorta. There are no lesions of the heart or of the great vessels. The pulsation in the femoral is equal on the two sides, and of normal strength. These signs were conclusive against the theory that we had here to deal with an aneurism of the abdominal aorta. As the liver presented no evidence of disordered function, the tumor was supposed to be unconnected with that organ. After a careful survey of the ease, the swelling was deeided to be produced by a disloeated spleen. The organ was supposed to be placed with its coneave surface on the aorta, and with its eonvex surfaee outwardly against the anterior abdominal wall. Being enlarged and firm in texture, it eommunieated readily and with little diminution the impulse received from the aorta.

Under the internal use of the iodide of ammonium, and the local application of the ung. hydrag. bin-iodidi (D. P.) it rapidly diminished in size, moving to the left of the mesial line, and at length disappearing in the left hypochondrium.—*Western Journal of Medicine.*

Notes of Interesting Cases of Surgery: By J. FAYRER, M. D., F. R. S. E., Senior Surgeon to the Medical College Hospital, Calcutta, and Professor of Surgery in the College.

Amputation of the Arm—Osteo-myelitis—Pyæmia—Death.—Sookan, a Hindoo Bunyah, aged about forty-six, was admitted into the Medical College Hospital, on May 6, 1867, with a lacerated wound on the inner aspect of the left elbow-joint. The wound was about three inches long, transverse, and situated below the internal condyle of the humerus. It had been inflicted with a pickaxe. The muscles arising from the internal condyle were divided, and the ulnar nerve was also cut across. The joint was not opened; sensation in the little and ulnar side of the ring finger was diminished. The wound was brought together, and the arm was placed in a rectangular splint.

May 10.—The arm is much swollen; part of the lips of the wound united, but a collection of pus has formed in the wound. The integument of the arm is inflamed. The wound was opened out, and free exit given to all the pus. He has been in a feverish state during the last two days. A poultice applied to the wound and a solution of nitrate of silver painted on the inflamed skin. ℞ Quiniæ gr. iij, tinct. ferri muriatis gutt. xv., every four hours. Bowels to be freely opened.

15th.—Swelling of the limb somewhat diminished; discharge from the wound more healthy; some burrowing of pus down the forearm; no fever to-day.

19th.—Bowels loose; there is profuse purulent discharge from the wound. On examining the depth of the wound, the probe now passes into the cavity of the elbow-joint. Quiniæ gr. iij, Dover's powder gr. x., every six hours. He has port wine ℥iv in addition to his ordinary diet daily.

20th.—His motions are of a dysenteric character this morning—red gelatinous mucus, and mucus discolored by bile. The discharge from the joint is profuse. He is weaker. Omit the former medicines. ℞ Ipecacuanhæ gr. xx., bismuthi gr. v, now, and repeat in three hours. Turpentine stupes to the abdomen.

22d.—The dysenteric symptoms are better; motions feculent. The discharge from the wound is much the same. He is weak and feverish at times, but as yet he has had no shivering. Repeat the quinine and Dover's powder. The arm is kept quiet in an angular splint and carefully dressed twice a day.

25th—He had rigors and after them fever, yesterday. There is evidently no hope of saving the arm, or of his general health improving whilst it is keeping up irritation; so that, as the best chance of saving his life, as indications of pyæmia were presenting themselves, amputation was performed through the lower third of the humerus. The tissues about the joint were too much disorganized, and his condition was too low, to justify excision. The bone seemed healthy where it was divided.

28th.—The feverish condition with rapid pulse has continued,

especially towards the evening. He now complains of pain in the left side of the chest. Percussion note in the left infra-axillary region dull. Respiration weak, harsh under the left mamma, and in the right chest sonorous rhoncus. Quinine and sulphate of iron, gr. iij and gr. ij, have been given every fourth hour. Sinapisms or stupes to the thorax; beef-tea and port wine every two or three hours.

30th.—Pulse 112, temperature 104°. Has a cough, and thick mucous expectoration. Free discharge from the stump, flaps are separating. Improving. Continue the medicine, wine and food.

31st.—Pulse 128, temperature 105°. Had a rigor last night. The thoracic symptoms remain much the same. The bone examined in the stump; medulla not protruding, a portion of the end of the bone denuded of its periosteum.

June 2.—No more rigors; pulse and temperature keep at the same, 128, and 105°. The ligatures are separating; the medulla of the bone is now protruding slightly, and the end of the bone is discolored.

5th.—Has had rigors again; respiration is quick and difficult; pulse weak, quick, and small, 140; temperature, 103°. The wound looks flabby; all the ligatures have come away; heart sounds weak, and action irregular. Died at 5 P. M.

Post-mortem Examination the following morning.—Chest: Lungs œdematous and emphysematous; the right lung congested posteriorly, but otherwise both were pale; the left lung contained three pyæmic patches of dead lung tissue, which, when cut into, were ashy-colored, and saturated with puriform sanies, surrounded by an areola of congestion in the living lung tissue—one was on the anterior margin, and two on the surface of the upper lobe. The left pleural cavity contained about five ounces of serous fluid, with flakes of aplastic lymph. The upper lobe of the left lung covered with a thick layer of aplastic lymph. Pericardium natural. Heart: A firm decolorised clot occupied the right auricle and ventricle, passing far into the pulmonary arteries. Abdomen: The liver was pale and slightly enlarged; the spleen was considerably above the natural size, as had been diagnosed before death—a condition so common in the natives of this malarious delta, and often so serious an obstacle to recovery after surgical proceedings. The kidneys and other viscera were apparently healthy. The bone contained pus infiltrated throughout the medullary cavity.

Remarks.—Such is an example of the cases we are so often called on to treat in our Calcutta hospitals, and such is the result that may so frequently be expected. The diseased condition of the spleen in this case was no doubt the great disposing cause of the unfavorable progress of the wound, and of the stump after operation. Death occurred from pyæmia, due not only to osteomyelitis, which ultimately made its appearance, but to the septic condition engendered before the amputation was performed, and which, in the enfeebled constitution of the patient, was unavail-

ing. But the immediate cause of death was the formation of the fibrinous coagula in the right cavities of the heart, and the consequently interrupted pulmonary circulation. The condition of the lung was, in this case, that which we nearly always find in fatal cases of pyæmia, especially from osteo-myelitis, and it gave evidence not only of the results of the pyæmic condition as observed in the dead patches which I have so often described and have pointed out to be not abscesses, but portions of dead or disorganized lung tissue infiltrated with puriform, not purulent sanies, but also of pulmonary embolism as observed in the emphysematous condition and partially blanched appearance at the lungs, which, though they had been furnished with an ample supply of air, had been deprived of blood in the pulmonary arteries. This condition of plugging of the right side of the heart no doubt often takes place in exhausting and blood-spoiling diseases; and it may be said that it is merely one of the latest events in the history of a life destroyed by such disease. But it is, I think, of even greater significance than this, for it may set in after a surgical operation, and of itself prove fatal; for I have seen cases that gave every hope of recovery until this condition supervened, rapidly succumb under the embarrassed pulmonary circulation and consequent apnœa.

Disease of the Hip-Joint.—Charles William B., an East Indian boy, of delicate constitution, was admitted into my ward on May 3, 1867, with symptoms of active disease going on in the left hip-joint. It appears that about six weeks ago, he sprained his left hip by falling into a ditch, but the pain was so trifling that he took no notice of it at the time. Two or three days later it appears that he had fever, which continued for three or four days, and then left him. About this time (he is not very positive in his account) he began to feel pain in the left knee joint on the inner side, and shooting up the thigh. This pain, as well as that in the hip, from which he now suffers, has increased daily since then.

On admission, the boy looked delicate and strumous; he was thin and sickly-looking from pain, want of rest and nourishment. The left thigh was flexed towards the abdomen, and he lay with his knees drawn up towards the trunk. The limb was wasted, and there was swelling over the hip, with external heat, and excessive pain on the slightest touch. There was no history, nor any evidence, of the formation of pus about the joint, but it must have been on the point of suppurating.

The least attempt to examine the limb caused agonizing pain. He had no sleep, it was said, for many nights. The constitutional irritation was extreme, and the boy was rapidly sinking under the suffering caused by the articular disease. I put him thoroughly under the influence of chloroform, and then cautiously and steadily extended the flexed limb until it was quite straight. The limb was already shortened, not merely from pelvic distor-

tion, but actual absorption of the bone; but there was no dislocation or distortion of the limb. I then secured the extended limb in a long splint, extending from the foot to the axilla, and over it applied a starched bandage. Some citrate of quinine and iron, with cod-liver oil, and a good diet, were ordered, with two ounces of port wine daily.

May 4.—The pain is much relieved, although, after recovering from the chloroform, he felt it for some hours. He is so much relieved this morning, and slept so well last night, that he says he is better than he has ever been since the disease began.

10th.—No pain in the limb or joint, even on pressure or tapping the sole of the foot; no starting of the limb at night, as formerly. He is improving in every way; has a good appetite and is getting quite strong.

It is unnecessary to continue details. The splint was finally removed on June 1, and the limb was found to be shortened one inch and a half. Partial anchylosis had taken place, and there was complete absence of any pain. He walked with a stick, limping from the shortness of the leg and from the wasting of its muscles during disease and confinement; but he was rapidly regaining the strength of the limb, and was discharged from hospital on July 29. I do not think suppuration occurred at all; if it did, the pus must have been absorbed.

Remarks.—This is an excellent example of the beneficial effects of rest in the treatment of hip disease. The mischief was progressing rapidly when the boy came under treatment, and would soon, no doubt, have exhausted his strength. Forcible extension, practised carefully under the influence of chloroform, is most beneficial, and was in this case, as I have seen it in others, most successful. Rest was the only therapeutic agent of any importance—at all events of a local nature—required; under its influence, and with the support afforded by nutrients and a little iron and quinine, he rapidly recovered; the disorganisation of the joint was arrested, and repair accomplished. I found the ordinary straight thigh splint answer the purpose admirably, and I applied it just as it would be applied in an ordinary fracture of the thigh. The improvement was immediate, and steadily progressive, only leaving it a matter of regret that the opportunity of treating the case earlier had not been afforded.

Rapid Union of Fracture in an Old Man.—A very old man, named Nagore Ghose, a Hindoo, said to be ninety-six years of age, was admitted into my wards on September 11, with a fracture of both tibia and fibula a little above the ankle-joint. The accident was caused by a carriage which knocked him down and passed over the limb. The foot was also bruised and excoriated. The fracture was simple and nearly transverse. He was a very old wrinkled man, almost quite blind from cataract, wonderfully active for his age, and healthy looking. The fracture was put up in ordinary side splints, and the abraided foot dressed.

On September 20, ten days after the accident, the splints were removed and the limb examined; union was found to have taken place but not firmly.

The splints were reapplied on September 25; they were again removed, and union was found to be complete.

On September 29 he was able to bear his weight on the leg; a starched bandage was applied a day or two later, and on October 11, exactly one month from admission, he walked out of the hospital perfectly well. He had been walking about the ward for several days, and became impatient, so I discharged him.

Remarks.—The only point of interest in this case is the rapidity with which union took place in the fractured bones of the lower extremity at this great age. It was unattended with any symptoms of inflammation or constitutional disturbance; and repair seemed to be effected well and rapidly, notwithstanding the age and distance of the part from the centre of the circulation, as it would have done in a young and vigorous person.—*Med. Times and Gaz.*

Gradual Intrusion of the Bodies of two Vertebræ into the Cranium through the Foramen Magnum. Wasting of the Medulla Oblongata; Pulmonary Phthisis: By ALFRED LOCHEE, M. D., Physician to the Kent and Canterbury Hospital; and CHARLES H. MOORE, F. R. C. S., Surgeon to the Middlesex and to St. Luke's Hospitals.

THE subject of this singular displacement of the bones of the neck was a patient under the care of Dr. Lochee, in the Canterbury Hospital, by whom the morbid specimen, together with an account of the case, was presented to the museum of the Middlesex Hospital. At the request of Dr. Lochee, Mr. Moore has completed the report of the morbid appearances, and furnished the explanations and remarks which they suggest.

Emma C——, aged sixteen, came under the care of Dr. Lochee, in the Kent and Canterbury Hospital, Nov. 11th, 1862, complaining of stiffness of her neck and hands, and of pain at the back of her head. She was stunted in growth, and looked like a child of thirteen; her body and limbs were extremely emaciated; her face was full and florid, but it was puffy, and the eyelids were rather œdematous. There was great rigidity of the muscles of the neck and upper portion of the spine, and the head was perfectly fixed and motionless, on the vertebral column. The posture of the head also was unnatural, the chin being depressed and approaching, though not touching, the sternum. The back of the neck looked swollen and deformed, the spinous process of apparently the fourth cervical vertebra being very prominent, as well as tender on pressure. The hands were drawn at the wrists; the

fingers were half flexed, and so stiff as to be only partially extended by the application of considerable force. The feet and toes were similarly contracted by continuous muscular spasm, although in a much less degree. There was no actual paralysis, but the muscular power was feeble both in the arms and legs, and all movements of them were slow and hesitating. There was no paralysis of the sphincters. Sensation was not all impaired; in fact, rather the opposite condition, that of hyperæsthesia existed. There was no affection of the sensorium; on the contrary, the mental faculties were remarkably keen and active. Articulation was distinct, though the voice was low and weak. Vision was perfect, though the pupils were large and sluggish. There was no long sleep, which was obtained only by short snatches. The respiration was somewhat quicker than natural, and there were crepitant râles and dull percussion over the greater part of the right lung; but owing to the pain occasioned by moving her, no very careful or extended stethoscopic examination was made. The heart's sounds were normal; the pulse regular at 110, but very feeble. The bowels acted once daily; the urine was sufficient and healthy; the catamenia had never appeared.

The pain of which she complained was almost entirely confined to the occipital region, so long as she was lying quietly on her back. Any attempt to raise her chin caused considerable pain in the upper cervical vertebræ. Pressure on these bones and general movements of her trunk also increased her pain.

The history she first gave of herself was that nine months previously she had had an attack of "rheumatic fever," and that her present condition had come on gradually from it. On further questioning, however, she explained that she had been suffering from "headache" and weakness of the limbs for several years; and her mother subsequently stated that, independently of the rheumatic attack, she had been under medical treatment for gradual loss of strength, wasting of the limbs, and pain at the back of the head, off and on for at least six years. She had not been known to have met with any injury.

During the earlier part of her residence in the hospital it could not be distinguished whether the fixedness of the neck was due to disease of the bones, and consequent contraction of the watchful muscles, or to some obscure disease of the nervous centres. The symptoms above detailed were ascertained with difficulty and were not all collected at once. Accordingly they were first thought to indicate one of those anomalous cases akin to reflex paralysis, which might depend upon nervous irritation anywhere, and which are therefore not necessarily connected with any primary lesion of either of the nervous centres. Zinc, strychnia, iron and opium were all tried, both separately and together, without any benefit. Then, amongst many other guesses as to the possible nature of the case, it was thought likely to be dependent on structural disease in the cerebellum, probably of a tubercular kind, the state of the right lung, even upon slight ex-

amination, pointing to the presence of tubercles there. The marked absence of any amaurotic condition, however, seemed to prohibit such a conclusion. But although it was thought venturesome during the life of the patient to declare any positive diagnosis, there was a striking similarity in the symptoms, so far as respects the rigidity of the neck, to those in Sir Astly Cooper's case of fracture of the odontoid process. Dr. Lochee often alluded to that case when visiting his patient, and as often spoke of the possibility of disease existing in that process, merely from the firmly fixed position of the neck and head.

About the middle of December, the occipital pain, which extended also down the back of the neck, had so much increased that, by way of experiment, leeches were applied behind the ears. These gave marked relief for twenty-four hours, when the pain returned with increased violence. Repeated doses of morphia kept her tolerably easy so long as their influence lasted; but, although she took a fair amount of nourishment, and seemed to digest it easily, she was evidently sinking day by day. No change worthy of note occurred in the symptoms from this time until the date of her death; there was simply a gradual failure of the vital powers—the pulse gradually going out, the respiration gradually ceasing. Her mind continued perfectly clear and active to within an hour of her death; for at that time she told the house-surgeon that she was dying at last, thanked him for all the kindness and attention he had shown her, sent a message to Dr. Lochee to the same effect, and then, after about half an hour of coma, ceased to breathe, on January 6th, having been fifty-five days in the hospital.

But a short time was allowed for the post-mortem examination, which, in itself a difficult one, was rendered still more so by being hurried. The brain was healthy throughout. There was some serous infiltration of the subarachnoid tissue, and much congestion of the pia mater. The sinuses of the dura mater also were very turgid with blood, as well as the veins running into them, and especially those of the longitudinal sinus.

Considerable difficulty was experienced in removing the brain. The endeavor to divide the medulla at the foramen magnum in the usual manner was thwarted by some unseen deformity of the bones of that part. When the base of the skull was at length brought into view, a process of bone of a pyramidal form, and an inch in height, was seen rising through the foramen magnum, and so narrowing that aperture that but a small space was left at its posterior part for the medulla oblongata. The projecting bone had lain during life in contact with the cerebellum and the right side of the medulla. The portion of the medulla immediately within the grip of the invading exostosis was compressed, and even flattened, but was not otherwise perceptibly diseased.

The right lung was full of tubercles in various stages of progress, some of them so near the pleural surface as to have given

rise to post-mortem emphysema on their removal. The left lung was full of miliary tubercles only.

The bones were removed for a more precise examination after they had been macerated.

Description of diseased bones.—The specimen comprises all that remains of the four upper cervical vertebræ, together with the adjoining third of the occipital bone. The lower part of the fourth vertebra is healthy, and has the natural articulations for the fifth. The upper part of it, and the three above it are firmly united together and to the occipital condyles at all their articulations, and are strangely compressed and distorted. Their laminæ and spines are disposed in a curve which is convex backwards, but they are little otherwise displaced, and not more than one-eighth of an inch is lost in their vertical depth, measured from the plate of the occipital bone to the tip of the fourth spinous process. The bodies, however, the odontoid process, and the anterior half of the atlas are no longer recognizable, being all anchylosed together into one mass. They are, moreover, so thrust upward that the body of the third cervical vertebra is in the foramen magnum, and the lower edge of the fourth body is but half an inch instead of two inches and three-eighths (which should in a girl of seventeen be its distance) below the basilar bone. The upper extremity of the mass, an uneven hollow pyramid, surmounted by a short spiculum of bone, projects through the foramen magnum, scarcely less than an inch into the cranium. Together with this ascent of the higher vertebræ through the foramen magnum, there concurs a marked elevation of the basilar process of the occipital bone, which no longer slopes but is horizontal. The pyramid of bone jutting upward, occupies nearly the centre of the foramen magnum. Between its anterior surface and the front of the foramen is a distance of seven-sixteenths of an inch, whilst the gap between its hinder surface and the posterior margin of the foramen measures but three-eighths of an inch. This latter, the smaller space, was the aperture for the medulla oblongata.

On looking down it, the narrowed vertebral canal appears to be of an elliptical shape, little more than half an inch in its lateral extent, and a quarter of an inch from before backward. This view does not, however, really represent the dimensions in any part of the canal for the cord, the distorted walls of the canal being uneven both before and behind, and the projections forward and backward being not precisely opposite one another. From the zigzag direction indicated by the shape of the bones, the medulla was less compressed than at first sight appeared. The channel for it was, however, reduced in two places to five-sixteenths of an inch. And these are the measurements between the macerated bones; in proportion as the membranes were thickened by disease the narrow spaces for them and for the cord must have been yet more seriously diminished.

The description thus far shows the deformity of the bones in relation to one another and to the medulla; it remains to mention how the cervical nerves and the vertebral arteries were affected by it. The remnants of the occipital condyles being nearly on the level of the body of the fourth vertebra, it has necessarily happened that the articular processes, intervertebral foramina, and transverse processes of the intermediate vertebræ are either compressed and stunted, or that they share the curvature backward of the laminæ and spines. Both these changes have, in fact, taken place; and the result is, that the canal for the vertebral arteries is not only devious, but greatly reduced in calibre, and that those vessels must have been extremely small. For the first cervical nerves, the second, and the fourth, the spaces of exit through the bones, though smaller than natural, may have sufficed. But the foramina for the third are so minute that those nerves must have dwindled to insignificant threads.

This case was one of chronic disease of the bones and joints at the upper extremity of the spinal column. It was attended with softening, partial absorption, and compression of the four upper vertebræ and of the adjoining portion of the occipital bone, and eventually with anchylosis of their joints, but not with suppuration. In all respects except the last, it corresponded with the ordinary vertebral disease which issues in angular deformity of the back. The particular relations of the higher bones to one another, however, so modified the distortion as to lead to the intrusion of some of the bodies into the cranium. In whatever region of the spine the disease occurs, it may affect any portion of a vertebra, and lead to its yielding at that part, under the weight it bears. Where the vertebral body both sustains the weight and is the part diseased, the column sinks, and forms an angle at the carious spot. But in the top of the neck, though the bodies be diseased, they do not bear the whole weight, and consequently may not sink. In the present case the disease involved the body of the second vertebra, and led to its excavation, not to its vertical compression. But it also affected the lateral masses of the upper four vertebræ, and they in proportion as they bore the weight of the head, diminished in perpendicular measurement. Had the ligaments of the odontoid process remained entire when this happened, it must have been fractured; and had there been any firm body above it, it must also have been compressed. But when released from restraint by the destruction of its liniments, it rose as the head subsided on its yielding lateral supports; and it entered and passed through the formen magnum, in which there was no firm structure to resist its ascent. The patient died when the top of the process had mounted to the heighth of an inch within the cranium, and when the body of the third vertebra was in the foramen magnum.

A somewhat similar specimen was presented to the Hunterian Museum by Mr. Lawrence who also furnished the history of the

patient in the thirteenth volume of the Medico-Chirurgical Transactions The deformity however, and the constriction of the vertebral canal, in that instance, do not equal that which is the subject of the present paper. Mr. Lawrence's case occurred in a child who, at five or seven years of age, had disease of the upper vertebræ of the neck, attended with the formation of an abscess. At no period of the complaint was there any interruption or diminution of sensation or voluntary motion; and the child recovered completely, so as to be able to walk and run, although during its illness it never ventured to move the head without cautiously supporting it with the hands at the sides. At twelve years of age the child died of angular deformity of the lumbar vertebræ with a large abscess. On examining the bones, it was discovered that the atlas was much displaced to the left both from the occipital bone above and the axis below; and that the greater part of its right lateral mass having been absorbed, the support of the right occipital condyle had been lost, and the head had sunk considerably on that side. The result of this subsidence of the head and of the detachment of the atlas from the axis was that the odontoid process projected by its whole length into the cavity of the skull at the anterior part of the foramen magnum, close to the right anterior condyloid foramen. The measurement of the spinal canal, in its narrowest part, was half an inch from before backwards, and five-eighths of an inch from side to side.

The symptoms produced in Emma C——, by the invasion of the territory of the nervous system, appear most remarkable for their moderate severity. Some indications of it were, indeed, absent which might have been looked for in such a case. For instance, the great projection of bone indented the cerebellum, but excited neither epilepsy nor any convulsive affection. The medulla oblongata was diminished to about half its natural size, without a loss of sensation, without an exaggeration of the reflex functions of the cord, without hiccough and disordered respiratory actions, and without the recurrence of bed-sloughs. There was no sign of injury of the spinal accessory nerves. These very deficiencies, however, throw light upon the production of such symptoms. They appear to have been absent for two principal reasons: because the medulla at its narrowed part was wasted,. not compressed; and because its further narrowing, to a degree which would have more nearly severed the cord from the brain, was interrupted by the fatal progress of disease in the lungs. For there is an essential distinction between the compression of nervous tissue and its emaciation. Pressure promptly arrests the function of the whole compressed part; emaciation reduces the nervous textures, accommodates them to a narrower residence, and leaves them still partially useful. And this latter statement holds good, even when the attenuation of the nervous fibre is induced by pressure, if only the pressure act gradually, and within the degree at which all that is essential in a nerve is absorbed.

In the present case the function of the medulla oblongata was but partially abrogated, and the symptoms were limited to defective voluntary power, and a permanent contraction, resembling rigor mortis, of all the muscles. The rigidity was not confined to the muscles of the neck, but was common to all voluntary muscles below the shrunken medulla. Above that part the functions were natural or even increased. The intelligence was remarkable, and was evidently in no way interfered with by the reduction in the supply of blood through the vertebral arteries. The carotids, without doubt, partly made up for this defect, and must certainly have nourished the anterior better than the posterior lobes of the brain.

The state of the bones supplies no explanation of the pain occasioned by moving the patient. They were firmly anchylosed, and could have jarred neither one another nor the cord. Some of the pain was plainly due to the stretching of the stiffened muscles, for it could be brought on in the arm by extending the fingers. But, inasmuch as the occipital pain was constant even during repose, it was probably seated in the medulla itself. This structure must have been rather abruptly indented, and must have come into incommodious contact with the bones, at every motion which stretched the cord below, as well as on the gentlest sliding of the brain above. Hence a continual discomfort at the pinched spot; and hence, perhaps, also the incapacity for sleep, since the medulla accustomed to repose in water, would be deprived of the quiescence necessary for sleep when pillowed on bone. On the other hand, the hyperæsthesia in the distal parts might have resulted conversely from the same irritation.—*Lancet.*

On a case of Embolism of the Right Ventricle of the Heart, completely obliterating the calibre of the Pulmonary Artery; rapid Death: By R. Richardson, L. R. C. P. E., F. G. S., etc.

By Embolism (a wedge or stopper) we understand that a vessel has been obstructed by a fibrinous clot, which might have formed in the heart or in the circulatory system, either arterial or venous, and by impulsion forced into a vessel so as to obliterate its cavity completely. The consequence attending such an accident depends upon the importance of that vessel to the function of life. When it occurs in the pulmonary artery, death is almost instantaneous; if the vessels of the brain, it causes apoplexy and softening of the brain; but if the arteries of the limbs are affected with it, gangrene of the part is the result.

These concretions are sometimes found in both sides of the heart, but more frequently in the right. Authors differ in opinion as to the mechanism of the formation of these clots. Some hold that the arrest of circulation and stagnation of blood in the

heart is the cause; others, that inflammation of the internal membrane of the heart, valves, or vessels is the primitive cause of them. But I am inclined to believe, from the following case, that the cause in some cases must be in the blood itself, as there is no history of any previous illness whatever up to the day of death.

On September 24th, I was called to see Miss T——, aged eight years and a half, who was taken suddenly ill. On my arrival I found her in bed, constantly spitting and sometimes vomiting, frothy mucus; her countenance looked pale, eyes sunken, and no pulse perceptible at the wrist; the action of the heart was tumultuous; very deep inspirations; feet and legs icy cold. I could at once see the serious aspect of the case. She did not complain of any pain, only of something in her throat. She turned over on her left side herself, and, with a deep inspiration, expired, as if with a sigh. She possessed her faculties to the last, and was dead in about ten minutes after my arrival, and all that time I was present.

The history of the case is as follows. She had been to church on the Sunday, and on Monday she was about as usual, but complained rather of headache. On the Tuesday (24th) she complained of a great quantity of phlegm coming in her throat, and when she moved it produced a vomiting; nothing but phlegm, which was very tenacious and frothy, came up. She was carried to bed about three o'clock P. M., and died about six the same evening, having been about the house in the morning.

The question naturally arose, what could have caused such rapid death? She was very tall for her age, and of a fair complexion, clear skin, and altogether she had a tubercular diathesis. Her mother died suddenly when my patient was about a fortnight old, after having suffered nearly a fortnight from phlegmasia dolens. I have no doubt an embolus was carried by the circulation into the pulmonary artery, and that accounts for so sudden a death.

As there was no reason for suspecting foul play, I could not very well account for so sudden a death in a child, as there was no symptom of any previous disease of the heart or of the brain. So, on the Friday, in conjuction with my friend, Mr. Rowland, F. R. C. S., of Strata Florida, who kindly assisted me, a post-mortem examination was made.

On inspection of the body there was nothing particular to observe; the body was well developed and very tall. On opening the abdomen we found all the viscera healthy; the stomach was healthy and contained about an ounce of dark-colored fluid; the spleen was congested, and the liver rather large. Chest: The pleura and pericardium were healthy; the lungs were very much congested, and the bronchiæ were full of frothy mucus; the left lung contained miliary tubercles. The heart looked normal. On opening the left ventricle, it was found to contain only a drachm of dark blood; all its membrane and valves healthy; the auricle

was healthy. On opening the right ventricle we found an embolus, about two inches and a half in length, an inch and a half in breadth, and about half an inch in thickness, which plugged completely the pulmonary artery. It was not adherent to the membrane nor the valves of the heart; its color was pale red, much like the appearance of uncooked veal. The right auricle was healthy. The head was not opened.

This case must be considered as quite unique, coming on without any apparent anterior cause. As we find the clot perfectly free from any adhesion to the heart or its valves, we must conclude that it was of recent date, probably not more than twelve hours, as when it commenced to develope it must have caused a certain amount of trouble in the system, which we do not find here before the fatal day. It must have been caused by the state of the blood itself– from the dyscrasia of the tubercular state as containing some morbific material. My namesake, Dr. Richardson, attributes the fluidity of the blood to the ammonia it contains; but it yet remains to be proved whether, in a case like the the one above narrated, embolism occurs from lack of that substance. [Dr. Richardson has recently withdrawn his theory concerning the coagulation of the blood, and the effect of ammonia in preserving its fluidity.—S. L.]—*Lancet.*

Illustrations of the Antiseptic system of Treatment in Surgery: By Joseph Lister, F. R. S., Professor of Surgery in the University of Glasgow.

Decomposition or putrefaction has long been known to be a source of great mischief in surgery, and antiseptic applications have for several years been employed by many surgeons. But the full extent of the evil, and the paramount importance of adopting effectual measures against it, are far from being generally recognized.

It is now six years since I first publicly taught in the University of Glasgow, that the occurrence of suppuration in a wound under ordinary circumstances, and its continuance on a healthy granulating sore treated with water-dressing, are determined simply by the influence of decomposing organic matter. The subject has since received a large share of my attention, resulting in the system of treatment which I have been engaged for the last three years in elaborating. The benefits which attend this practice are so remarkable that I feel it incumbent upon me to do what I can to diffuse them; and with this view I propose to present to the readers of The Lancet a series of illustrative cases,

prefacing them with a short notice of the principles which it is essential to bear in mind in order to attain success.

The cases in which this treatment is most signally beneficial are divisible into three great classes—incised wounds, of whatever form; contused or lacerated wounds, including compound fractures; and abscesses, acute or chronic—a list, indeed, which comprises the greater part of surgery. In each of these groups our aim is simply to prevent the occurrence of decomposition in the part, in order that its reparatory powers may be left undisturbed by the irritating and poisoning influence of putrid materials. In pursuing this object we are guided by the "germ-theory," which supplies us with a knowledge of the nature and habits of the subtle foe we have to contend with; and without a firm belief in the truth of that theory, perplexity and blunders must be of frequent occurrence. The facts upon which it is based appear sufficiently convincing. We know from the researches of Pasteur that the atmosphere does contain among its floating particles the spores of minute vegetations and infusoria, and in greater numbers where animal and vegetable life abound, as in crowded cities or under the shade of trees, than where the opposite conditions prevail, as in unfrequented caves or on Alpine glaciers. Also, it appears that the septic energy of the air is directly proportioned to the abundance of the minute organisms in it, and is destroyed entirely by means calculated to kill its living germs —as, for example, by exposure for a while to a temperature of 212° Fahr., or a little higher, after which it may be kept for an indefinite time in contact with putrescible substances, such as urine, milk or blood, without producing any effect upon them. It has further been shown, and this is particulary striking, that the atmosphere is deprived of its power of producing decomposition as well as organic growth by merely passing in a very gentle stream through a narrow and tortuous tube of glass, which, while it arrests all its solid particles, cannot possibly have any effect upon its gases; while conversely, "air dust" collected by filtration rapidly gives rise simultaneously to the development of organisms and the putrefactive changes. Lastly, it seems to have been established that the character of the decomposition which occurs in given fermentable substances is determined by the nature of the organism that develops in it. Thus the same saccharine solution may be made to undergo either the vinous or the butyric fermentation, according as the yeast plant or another organism, described by Pasteur, is introduced into it. Hence we cannot, I think, refuse to believe that the living beings invariably associated with the various fermentative and putrefactive changes are indeed their causes. And it is peculiarly in harmony with the extraordinary powers of self-diffusion and penetration exhibited by putrefaction that the chief agents in this process appear to be "vibrios" endowed with the faculty of locomotion, so that they are able to make their way speedily along a layer of fluid such as serum or pus.

Admitting, then, the truth of the germ theory, and proceeding in accordance with it, we must, when dealing with any case, destroy in the first instance once for all any septic organisms which may exist within the part concerned; and after this has been done, our efforts must be directed to the prevention of the entrance of others into it. And provided that these indications are really fulfilled, the less the antiseptic agent comes in contact with the living tissues the better, so that unnecessary disturbance from its irritating properties may be avoided.

The simplest conditions are presented by an unopened abscess. Here, as no septic particles are present in the contents, it is needless to apply the antiseptic directly to the part affected. All that is required is to guard securely against the possibility of the penetration of living germs from without, at the same time that free escape is afforded for the discharge from within. When this is done we witness an example of the unaided curative powers of Nature as beautiful as it is, I believe, entirely new. The pyogenic membrane, freed from the operation of the stimulus derived from the presence of the pus pent up within it, without the substitution of the powerful stimulus of decomposition as has heretofore been the case after the opening of abscesses, ceases at once to develop pus-corpuscles, and, exuding merely a little clear serum, rapidly contracts and coalesces, discharging meanwhile its unirritating contents completely, whether the outlet be dependent in position or otherwise. At the same time the irritative fever and hectic hitherto so much dreaded in large abscesses are, with perfect security, entirely avoided.

In suppurations of the vertebræ or of the joints the results of this system are such as I ventured with trembling hope to anticipate; patient perseverance being rewarded by a spontaneous cure in cases where excision, amputation, or death must have resulted from any other known system of treatment. In short, the element of incurability has been eliminated from Caries.

In compound fractures and other severe contused wounds the antiseptic agent must in the first instance be applied freely and energetically to the injured parts themselves, the conditions being the opposite of those in unopened abscesses. The wound being of complicated form, with its interstices loaded with extravasated blood, into which septic organisms may have already insinuated themselves during the time that has elapsed before the patient is seen by the surgeon, mere guarding of the external orifice, however effectually, is not sufficient. After squeezing out as much as possible of the effused blood, a material calculated to kill the septic particles must be introduced into the recesses of the wound; and if the substance employed is of sufficient strength to operate to a certain extent as a caustic, this is regarded as a matter of little moment in comparison with the terrible evil of inefficiency in its antiseptic action. For experience has abundantly shown that parts killed in this way, including even portions of bone, be-

come disposed of by absorption and organization, provided that the subsequent part of the treatment is properly managed.

Sloughs, as ordinarily observed, are soaked with the acrid products of decomposition, and therefore produce disturbance upon the tissues around them, leading first to their gradual transformation into the rudimentary structure which, when met with at the surface of a sore, is termed "granulations," and afterwards to the formation of pus by the granulations. But a dead portion of tissue, if not altered by adventitious circumstances, is, in its proper substance, perfectly bland and unirritating, and causes no more disorder in its neighborhood than a bullet or a piece of glass, which may remain imbedded in the living body for an indefinite period without inducing the formation of pus; while the dead tissue differs from the foreign bodies alluded to in the circumstances that the materials of which it is composed are susceptible of absorption.

Antiseptic subtances, being, like the products of decomposition, chemically stimulating, will, like them induce granulation and suppuration in tissues exposed for a sufficient length of time to their influence; but there is this all-important difference, that an antiseptic merely stimulates the surface to which it is applied, becoming diluted and weakened by the discharge which it excites; but the acrid salts which result from putrefaction are perpetually multiplied and intensified by self propagating ferments, so that every drop of serum or pus effused through their agency becomes a drop of poison, extending its baleful influence both in the injured part and in the system generally.

These pathological considerations indicate the after-treatment in compound fracture, and explain the progress of the case. The antiseptic introduced into the wound is soon washed out by the discharge or carried away by the circulation, so that the blood and sloughs at first imbued with it become unstimulating and amenable to absorption, while at the same time they are prone to decomposition should any living atmospheric germs gain access to them. The further treatment, therefore, must consist in maintaining an efficient antiseptic guard over the orifice of the wound until sufficient time has elapsed to ensure complete consolidation of the injured parts.

The sanious and serous discharge which occurs at the outset will give place in a few days to a small amount of pus, if the wound is dressed in such a way that the antiseptic continues to act upon the raw surface. This discharge, due to the stimulating nature of the application, being merely superficial, and involving no inflammatory or febrile disturbance, will occasion no anxiety to one who understands its cause; and I venture to repeat the caution given in a previous communication, that the surgeon must on no account be induced to explore the wound and pry into the source of suppuration, so long as all is going on well otherwise; for such a course, by admitting germs into the interior,

may produce the most disastrous consequences in an otherwise promising case.

But although suppuration resulting from the stimulating influence of the antiseptic is no cause for anxiety, it is more convenient that it should be avoided; and this may often be done entirely by leaving the lower layers of the dressing permanently on the limb and changing only its superficial parts—a plan which, while it protects the wound against the introduction of mischievous particles, permits the foreign body in contact with the tissues to part with its antiseptic material and become an unstimulating crust, under which complete healing by scabbing may occur in wounds of a size hitherto regarded as inconsistent with this process in the human subject.

Upon these principles a really trustworthy treatment for compound fractures and other severe contused wounds has been established for the first time, so far as I am aware, in the history of surgery. In an hospital which receives an unusually large number of patients suffering from machinery accidents, and in wards which, from circumstances to which I need not here allude, were peculiarly unhealthy, my experience of compound fractures in the lower limb was formerly far indeed from satisfactory, even in the selected cases in which alone I attempted to save the limb. But since the antiseptic principle has guided us, not only have ordinary cases of the formidable injury been treated by my successive house-surgeons with unvarying success, but limbs such as I should once have condemned without hesitation have gone on to complete recovery without either local or constitutional disturbance; a statement which might be suspected of exaggeration were it not that it refers to proceedings in a public hospital, witnessed not only by students, but by gentlemen once my pupils, and now practitioners in Glasgow.

In the next article I propose, after a few words regarding the principles applicable to simple incised wounds, to describe in detail the methods of procedure, illustrated by cases.—*Lancet.*

Pneumatic Apparatus of M. MAISONNEUVE, *for the Treatment of Stumps after Amputation.*

M. MAISONNEUVE believes that pyæmia is due to the absorption of putrid matter which forms in wounds. He does not deny that general causes, such as overcrowding, a vitiated atmosphere, certain variations of temperature, certain states of the system, etc., exercise an influence on the occurrence of pyæmia after surgical operations; but their influence must be limited to this,—they merely accelerate the formation of putrid matter. Under certain circumstances the matter remains healthy for a length of time; under other conditions, it speedily becomes putrid—possessed of

noxious qualities. "Take for example," he said, "an every-day occurrence. Under certain conditions of degree or of variability of temperature, the venison which is hung up in your pantry may keep good for days or become rotten in a couple of hours. In like manner, according to certain individual or general circumstances, exuded matter takes a shorter or a longer time to become putrid." As an application of this principle, M. Maisonneuve applies to the wound compresses steeped in a weak solution of carbolic acid, which acts as a disinfectant, or aromatic wine, which *embalms* the matter.

Well, the putrid matter having once formed, it undoubtedly has a tendency to go up, to be carried away in the circulatory fluid. The ancients knew this; so in the records of former practice—and even now-a-days—you see large pledgets of lint applied to wounds, so as to soak up the pus, and prevent it from lying loose about the wound, and being absorbed. Drainage, not to mention other means, is also of service in the attainment of this object. But M. Maisonneuve affirms that his pneumatic apparatus is the crowning process. His object, therefore, in the application of it, is *not to establish a vacuum*, with the motion that the atmosphere contains gases the action of which may exercise an injurious influence (as many believe), or germs which may cause decomposition of effused or extravasated matters, according to Professor Lister's theory,—his object is merely to rarify the atmosphere, and by so doing to establish an influence the opposite of that of the absorbents, which may counterbalance or vanquish the tendency to absorption of the putrid matter. According to the Surgeon of the Hotel Dieu, this object has been attained by the pneumatic apparatus in question. A certain rarefication of the air about the stump is accomplished, and the putrid matter loses its tendency to travel upwards, and is drawn down in the opposite direction. M. Jules Guerin, who attributes the fatal sequelæ of surgical wounds simply to the noxious properties of the atmosphere, had also tried a pneumatic apparatus; but it was one of perfect occlusion; the vacuum had been made as complete as possible, and the results had been far less satisfactory.

Such are the principles upon which M. Maisonneuve has grounded his novel proceeding, and upon which he explains its excellent results. As to its management, it is very simple. As soon as the operation is performed, M. Maisonneuve washes the wound with alcohol, aromatic wine, or weak solution of carbolic acid: makes no sutures, but simply applies strips of plaster. He then puts on compresses steeped in either of the three fluids I have just named, and finally adapts the india-rubber cap. The exhausting pump rarefies the air, and the exuded matter runs into the bottle, wherein a certain quantity of a weak solution of carbolic acid has been placed beforehand in order to deodorize the fluids. It is not necessary to renew the pumping very often. The bottle may be opened and cleansed *ad libitum;* and once or twice

a day, indeed as often as necessary, the cap may be removed from the stump, and the wound cleaned or the dressing renewed. M. Maisonneuve is most enthusiastic in regard to this process. He said that the results he had hitherto obtained justified him in being so; ten or eleven operations, among which were three amputations of the thigh, having been remarkably successful. The case which we had just examined was less so than ordinary. But he had observed one case, an amputation of the thigh, in which, three days after the operation, the wound had been perfectly healed. He had not yet had occasion to apply his contrivance to wounds resulting from accidental injuries, so could not judge of its value in such circumstances; but he intended to pursue his researches, and make them as complete as possible.—*Lancet.*

A Monster Tumor.

On Wednesday last the theatre of University College Hospital was literally crammed from top to bottom by visitors from all parts of London who had come to see Mr. Christopher Heath remove an unusually large tumor of the lower jaw. The patient was a man, thirty-two years of age, whose appearance was most extraordinary from the enormous enlargement of the lower part of his face. An idea of this may be gained by mention of the fact that a line taken round the chin, from one ear to the other, measured nineteen and a half in.; and from the lower lip (which was dragged down) to the pomum Adami, thirteen in. Mr. Heath made a vertical cut through the lower lip at its centre, extended it nearly to the thyroid cartilage, reflected the flaps, sawed through the body of the left jaw just behind the second molar tooth, disarticulated the head of the right jaw, and removed, in this way, a mass of osteo-sarcoma weighing 4 lb. 8 oz. The operation was performed with singular expedition and facility, and but very little blood was lost. Mr. Heath was assisted by Mr. Erichsen, Sir Henry Thompson, Mr. Marshall, and Mr. Berkeley Hill, who illustrated, it seemed to us, exactly what good assistance should be. Mr. Clover managed the chloroform (in spite of the great difficulties of the case) so cleverly that the patient was kept under its influence throughout the operation. It may be noted that the tumor is the largest of its kind on record since Mr. Syme took one away, of the same weight, in 1828. —*Lancet.*

General Hyperostosis: Case Reported by Prof. Friedreich, of Heidelberg, to Annual Congress of German Naturalists and Physicians.

Prof. Friedreich, of Heidelberg, spoke about profuse hyper-

ostosis, and introduced a patient whose every bone appeared to be invaded by this affection. It was a man, aged twenty-six, in whom, eight years ago, without any apparent cause, the bones of the feet began to thicken; those of the legs and thighs followed suit, and within two years even the upper extremities became similarly affected, more especially the hands, which had attained a monstrous size. The disease then spread to the ribs, the sternum, the collar-bones, the shoulder-blades and pelvic bones, the vertebral column, the hyoid bone, and the zygomatic, palatine, and alveolar processes. The cartilages of the ears, eyelids, nose, and epiglottis, were similarly thickened. Everywhere, however, the bones were perfectly smooth, and there were no tuberosities or exostoses. The development of this affection proceeded gradually and painlessly, and could only be looked upon as a manifestation of a "diathesis ossifica." Within the last few years the affection seemed to have become stationary. A brother of the patient had the same disease, and got it in the same progression, commencing in the feet, and thence gradually proceeding upwards, but in him the cartilages were healthy. The other six brothers and sisters were unaffected. The father was said to have died of consumption; the mother was still alive and quite well.—*Frankfort Letter in Medical Times and Gazette.*

Graves's Disease.

Dr. Ruhle, of Bonn, spoke of diseases of the thyroid body. In Basedow's or Graves's disease, there were always three prominent symptoms; but there were cases in which only two occurred—viz., hypertrophy of the thyroid and excitement of the heart's action, or affection of the thyroid with cerebral symptoms.

Professor Virchow remarked that recent observations seemed to show a twofold mode of origin of Basedow's disease, inasmuch as there was either a primary neurosis which caused hyperæmia of the orbit and the thyroid body, with vascular dilatation, and, finally, hyperplastic processes of the glandular tissue; or the changes in the thyroid tissue appeared to be the primary element, and the neurosis was only a consequence of the same.—*Frankfort Letter in Medical Times and Gazette, December 21st* 1866.

Notes of Cases under Mr. Hutchinson's *care,* in the London Hospital for Skin Diseases.

Case 1.—*Exceedingly Mild Symptoms of Congenital Syphilis in an Infant conceived within Two Months of the Disease in both Parents.* A young, healthy-looking, married woman brought an infant, also

apparently in good health, but with about half a dozen spots of copper-tinted psoriasis. Some of these were on its neck, and others on the genitals. They were insignificantly small, but their color and glossy surfaces marked them as of specific origin. The mother's history was inquired into, and it now appeared that she had suffered from syphilis, received from her husband two months before her pregnancy began. Her symptoms did not appear to have been severe, and at present she is quite well. In this case we have an instance in proof that a child conceived within a very short time of syphilis in both parents may yet escape with apparently slight taint. Excepting for the characteristic eruption, which is very sparing in quantity, the child appears to be in good health.

Case 2.—*Syphilitic Phagedæna of the Nose in a Pregnant Woman (six years after the primary disease)—Want of Success by Internal Treatment—Cure by Escharotics—Health of the Infant, etc.*—Eliz. J., attended six months ago with phagedæna of the nose. Her history was that both her husband and she had suffered from syphilis six years before. It appeared that her symptoms had been at the time but trivial. A child, born a year later, suffered severely but recovered. Two children after that showed no symptoms which attracted her attention. She was now (when admitted) again pregnant, and within six weeks of her time. The phagedæna was steadily spreading, and had already destroyed the right ala. Iodide of potassium was ordered in ten-grain doses, but at the end of a week, as the phagedæna was nor arrested and exceedingly painful, the sore was carefully cleaned and freely dressed with strong acid nitrate of mercury. The effect of this was to stay the phagedænic action, and entirely to relieve the pain. The iodide was continued, and the part steadily healed. This was the third attack during the last three years, in which the patient had suffered from ulceration of the nose. As the patient was thus known to be in the tertiary stage of syphilis, it became a matter of interest to see whether her child would suffer. The child which appeared healthy at the time of birth, became liable, at about two months old, to eczema on the nates and ears. At present it is five months old, and in tolerably good health, but on the nates there are irregular patches of erythema and peeling of cuticle, which are quite definitely syphilitic. The child has no snuffles. It has varied very much in health, sometimes suffering from diarrhœa, and becoming extremely emaciated, and then rapidly recruiting again. No specific treatment has yet been adopted.

Case 3.—*Molluscum Contagiosum on the Nipple of a Mother and on the face of her Child—An ulcerated Molluscum looking like a Chancre—History of Contagion from another Child.*—An important case, illustrating the contagion of molluscum contagiosum, came under observation on November 19. A woman brought her child, a healthy infant of two months, with a few small spots of mol-

luscum on its eyelids and face. She said, however, that she had come chiefly on her own account. On her left nipple was an ulcerated tumor as large as a small cherry, and on the skin over the breast a little distance from it there was an open ulcer the size of a fourpenny-piece, and by the side of it a flat-topped moluscum. The latter was quite characteristic. The open ulcer appeared, from the woman's account, to have resulted from the sloughing out of a large molluscum follicle, and the ulcerated tumor by the side of the nipple was another unusually large molluscum in the process of like spontaneous cure. Under the breast, at a distance from the nipple, were two or three molluscum spots, just like those on the child's face. The case was interesting not only as furnishing a fact in proof of the contagion of the disease, but also as teaching the necessity for care in diagnosis. Had the other molluscum spots on the breast and infant's face not been present, the inflamed and ulcerated ones might very likely have excited a suspicion as to their syphilitic origin. This suspicion was indeed entertained by several who saw the case, the raised surface and hardened edges being very like those of a chancre. The contagion in this instance appeared to have begun with the mother, for she believed she had some spots before her confinement. She appears to have contracted them from one of her elder childern, who had some spots on her face. A colored drawing of the mother's breast has been made, and is preserved in the hospital museum. A portrait has been published by the New Sydenham Society, from a patient under Mr. Hutchinson's care, which shows molluscum on the breast of the mother and on the child's face, and thus illustrates the contagion of the disease.—*Medical Times and Gazette.*

Difference Between Inherited Syphilis and Scrofulous Affections.

In a recent letter from Mr. Jonathan Hutchinson, that distinguished Surgeon makes the following sensible remarks on this subject:

Respecting these two diseases, I think that we may convince ourselves by two modes of examination. First. Let any one collect a large group of patients undoubtedly the subjects of inherited syphilis, as denoted by teeth, physiognomy, and keratitis, and then inquire as to the disease from which their brothers and sisters have suffered. If he finds that their brothers and sisters have suffered with any unusual frequency from rickets or tuberculosis, his experience will differ *toto cælo* from my own. Second. Let the worst cases of rickets or tuberculosis be collected, and let inquiry be made as to whether the elder brothers or sisters of

such patients show any signs of hereditary syphilis. Here again I venture to predict that the result will be negative.

There are other facts by which I may support my view of the matter. *First.* Those who suffer very severely from inherited syphilis show no tendency either to tuberculosis or to rickets. Why, then, should those who suffer less? That the well-characterized cases of inherited taint are not tuberculous or rickety is, I think, already well proved. These patients, although suffering much, and from many maladies, show great tenacity of life, and if they do die it is usually of liver or kidney disease of a specific kind. I have myself seen some hundreds of such patients, and only in the rarest exception have I witnessed any tendency to the diseases mentioned. *Second.* The typical examples of rickets and tuberculosis show no indications of syphilitic taint. *Third.* You find tuberculosis and rickets, severally, very common in families where there is no suspicion of syphilis, and you can produce these diseases, almost at will, either in man or the lower animals. Not so with syphilis. Feed a patient how you like, derange his hygienic surroundings to any extent, you cannot produce either notched teeth or interstitial keratitis. These conditions stand as definitely in relation with inherited syphilis, and with no other cause, as do the iritis and coppery rash with the acquired disease.

Of course I do not assert that inherited taint confers any immunity from other diseases. If a patient be exposed to the influences which produce two different maladies, he may show the two in combination, and thus a syphilitic patient may easily be also rickety or tuberculous. I do, however, express strongly my present conviction that he will not suffer one whit more severely from the latter disease because he is syphilitic, nor will he have been in the least predisposed to their attacks.

Thus, sir, you will see that I am a sort of a Fenian in this matter, and wish to claim Ireland for the Irish. Let syphilis have its own, and tuberculosis and rickets each their own, but let us not mix them all up together until good clinical warrant is given us. To do so on mere conjecture is to confuse our notions of etiology and confound our measures of treatment.—*Medical Times and Gazette.*

Case of Surgery: By DR. D. O. FARRAND, of Detroit.

CAPTAIN G——, received a gunshot fracture of the occipital bone, at about the centre, during the battle of Spottsylvania Court House, May 12, 1864, and was left on the field for dead. A shower of rain, after about two hours, restored him to consciousness, but he was obliged to lie where he fell, twelve hours. It was not until the 16th, four days after he was wounded, that the

true nature of his wound was discovered, and a circular piece of bone, about as large as a quarter of a dollar, was removed. He remained in hospital till July 6th, suffering constant pain in the head, and almost total loss of vision of the right eye. He presented himself to me about the 1st of August, at the time on furlough, complaining of dimness of vision of the right eye, and occasional attacks of vertigo. I found at the seat of the original injury, a circular opening, about one-fourth of an inch in diameter, exposing the *dura mater*, and plainly revealing the rocking motion of the brain at each pulsation of the carotids. The wound had healed, and left this opening. I advised some kind of a protection for it, and requested him to report to me from time to time, that I might keep him under observation. This he has done. The opening has grown smaller, till at the present time, three and a half years after the receipt of the injury, it is about the size of a No. 4 catheter.

The gentleman is engaged in active business, and for the past two years has experienced but little trouble with his head, unless the opening showed a disposition to close up. This has always brought back the vertigo, nervousness and pain in the right eye. The opening has thus far been re-established by the agency of a poultice or two, and with its re-establishment all of the unpleasant symptoms have immediately disappeared.

I have reported the case because of its singularity. I am of the opinion that there exists some depression about the opening, but have advised against any operation as long as he continues as free from annoyance as at present.—*Detroit Review of Medicine and Pharmacy.*

Bichloride of Methylene.

At the Medical Society of London, November 18th, 1867, Mr. Peter Marshall gave the following details of operations under the use of this anæsthetic:

These comprised ovariotomy, excision of half of the lower jaw, amputation of the foot, fistula, and chronic disease of the knee-joint. Previous to entering on the description of these cases, he paid a just tribute to Dr. Richardson's inventive genius, stating that he considered the discovery of the bichloride of methylene a triumph of scientific induction, and that it would prove a useful and safe addition to our anæsthetics. This anæsthetic, being much more volatile than chloroform, rises in vapor at 88°, but practically at 94°, and requires to be used with an apparatus which will permit its rapid diffusion together with the admission of air. M. Tavaux has completed an apparatus well suited for this purpose. The effects of the bichloride are much more rapid

than those of chloroform; the second stage of narcotism is not well defined, but the patient passes rapidly from the first to the third. Two of the cases in which he had used the bichloride were followed by slight sickness, but in the others it acted kindly, quickly, and favorably. The time required to put the patient under its full influence was from three and a half to seven minutes, and the quantity used was from two to six drachms. The pulse in three cases ranged from 65 to 80; the others offered a marked contrast in this respect, for it ranged from 114 to 120; in one case there was squinting during its action.

Dr. Althaus then read a paper on the "Treatment of Tumors by Electrolysis."

The author introduced his subject by stating that, since he had first recommended this plan of treating tumors, a sufficient amount of experience had accumulated to show that we possess in the electrolytic treatment a valuable mode of dealing with certain kinds of tumors, to which no other operative proceedings are applicable, and also for such cases where, although other surgical operations might be equally suitable for the disease, yet the patient's dread of more formidable measures was such as often to induce him to bear the disease rather than seek the remedy. He then stated the principles upon which this mode of treatment was based, and which consisted in making use, not of the calorific or heating effect of the continuous galvanic current, which had long been used in surgery, being well known under the name of the galvanic cautery; but, on the contrary, in utilizing the property possessed by the same galvanic current of decomposing all chemical compounds, and thus gradually destroying all organized tissues which might be brought within its circuit. He laid chief stress on the necessity of using merely the negative pole for the destruction of tumors, giving as the reason for this that the negative pole was not changed by the nitrogen and free alkali developed at it, but always retained its pure and bright metallic condition, while the positive pole, where oxygen, chlorine, and acids were developed, was at once oxidized and chlorinated, and from a metal changed into a metallic salt, as no metal whatever could resist the effects of oxygen and chlorine in the nascent state. If we were, therefore, to use the positive pole, we would introduce salts of iron, copper, silver, gold, or of any other metals, used as conductors, into the depth of the tissues—that is to say, irritant foreign bodies, which experience had shown to be liable to cause inflammation, suppuration, and other undesirable surgical complications. The author then gave a demonstration of the effects of both poles separately on animal structures, and explained the manner in which the electrolytic treatment acted. He then showed the instruments used by him, and made some remarks on the value of the ether spray, allowing an easy introduction of the needles into the tumor. The application of the galvanism itself was almost entirely painless, if certain precautions

were used. Dr. Althaus then gave an account of the cases treated by him up to the present time, which amounted to sixty-three, amongst which were fifty-two non-malignant, and eleven of the malignant kind. The former were cases of nævus, bronchocele, sebaceous tumors, ecthyma molluscifórme, kelis, lipoma, neuroma, cysts, and glandular tumors. The results of the treatment were that thirty-two cases were cured, twenty-five improved, and in six there was no result, or the result was not known. In malignant disease, the results were far less favorable, as in only two out of eleven cases was the tumor removed. The author thought, however, that perhaps, in course of time, a more continuous application of the electrolytic process might be discovered, by means of which it would become possible to starve out even cancerous growths. Dr. Althaus concluded his paper by some remarks on the mode of procedure, the length of time necessary for the application, and the advantages which he believed to be inherent to the mode he had recommended.

A discussion ensued in which Dr. Day, Mr. De Méric, Dr. Sansom, Dr. Morell Mackenzie, Dr. Camps, and Dr. Simms took part. —*Medical Times and Gazette.*

QUARTERLY REVIEW OF OBSTETRICAL SCIENCE.

COLLATED BY JOSEPH HOLT, M. D.

Case of Inversion of the Uterus, Reduced after Eighteen Month's Duration; with a New Mode of procedure to be adopted as a Last Resort, in any Case where the Reduction cannot be accomplished. By THOMAS ADDIS EMMET, M. D., Surgeon in Charge of the New York State Woman's Hospital.

MRS. C., aged twenty-six, on the recommendation of Dr. Crispell, of Rondout, N. Y., was admitted to my private Institution, May 21st, 1867, and presented the following history; she menstruated first at twelve years of age, married at twenty-three, and had been in perfect health previous to the birth of her child. Labor at full term commenced December 22d, 1865, and was terminated by the efforts of nature, at the end of twenty hours, its progress having been somewhat tedious, but otherwise natural. By the next pain following the birth, the placenta was expelled, without traction or any interference. The cord was of a natural length and not looped about the body of the child. She was attended by a physician of experience, who furnished Dr. Crispell with the following interesting feature of the case. Before putting on the bandage he waited some time and satisfied himself that the uterus had contracted properly. As he was leaving the house he heard her bearing down as with an expulsive pain, but feeling satisfied

that there could be nothing unusual in her condition, he proceeded home, but a few hundred yards distant. He, however, felt uneasy, and on his almost immediate return he found that he was just being sent for, as, with hæmorrhage, the pain had been violent and continuous since his departure. An examination disclosed a complete inversion of the uterus, which was immediately reduced without difficulty, and with the recurrence of pain, the organ contracted naturally. He remained in the house for nearly three-quarters of an hour afterwards, and before leaving satisfied himself that the uterus had properly contracted. The after-pains were slight, she made a good recovery, nursed her child, and was apparently in perfect health until thirteen months afterwards. Menstruation then returned, and at the end of five days, when it had nearly ceased, excessive hæmorrhage suddenly came on. The uterus was then found completely inverted and the fundus just within the labiæ. By astringent injections the hæmorrhage, for the time, was arrested. At the end of the fifth day of the next menstrual period, the hæmorrhage again occurred, and with each period afterwards would continue, until arrested by astringents or the tampon. I found her exceedingly anæmic, and having at all times a profuse watery discharge, with a tendency to hæmorrhage on the least exertion. A few days after admission, with a pulse of 120, she was placed under the influence of ether, and with the aid of Drs. Peaslee and John G. Perry, Dr. Crispell being also present, I attempted the reduction. The condition of the uterus was remarkable, and might easily have been mistaken for a polypus. The vagina was found occupied by a soft, smooth mass, about the size of a hen's egg, with a distinct pedicle scarcely three-quarters of an inch in diameter, around which the cervix was well contracted. The uterine probe passed a little over two inches into the canal and apparently to the fundus. The left hand was introduced into the vagina and the other above the pubes; they were then approximated sufficiently behind the uterus to indicate that the case was one of inversion, while from the shape of the mass and the depression in its centre, felt through the abdominal wall, there remained no question as to the true condition. With the patient lying on the back, the fingers around the pedicle were gradually introduced into the uterine canal, and the cervix dilated by gently spreading the fingers, while the fundus, rested in the palm of the hand. In the course of half an hour the cervix and canal had become so dilated that the fundus could be carried entirely within the uterine cavity, but beyond this no progress could be made in the reduction. The pedunculated portion was so small that it would double on itself in such a manner that the upward force, of so much importance at this stage, could not be fully exerted, and was lost to a great extent. Over the edge of the ring formed by a portion which had been inverted and but just rolled out, the broad ligament on the right side, at this stage of the reduction, was felt thickened and dipping into the

canal formed by the inversion below. On turning the uterus up against the abdominal wall, by means of the hand in the vagina, this condition was recognized by all present, and as the mass could not be moved aside, it was found that adhesions existed to an extent which could not be overcome. It was also thought that from this cause, by some impediment exerted on the circulation, the atrophied condition of the body of the organ had resulted. At the end of three hours the condition of the patient became so feeble that all further attempt at reduction for the time was abandoned.

June 19.—Ether was again administered, the pulse being feeble and 104 per minute. Drs. Peaslee, Clymer, Perry, Birckhead, and Crispell were present. Although the original condition existed, in less than half an hour all was gained that had been accomplished by the previous effort. At the end of the first hour the pedunculated part of the body had disappeared, and the ring at the seat of inversion had become so dilated that by pushing up through it a portion on the right side, the finger was distinctly felt through the abdominal wall by the gentlemen present. It was now evident that the broad ligature, in a mass, was firmly adherent, and that the reduction could not be accomplished, without the ring at the seat of inversion could be dilated sufficiently to admit of the left side of the uterus being reduced first and afterwards the opposite side bodily, by swinging it around through the dilated portion, thus leaving the adhesions intact. But to accomplish this extent of dilatation was almost beyond the expanding capacity of the fingers. I continued, however, my efforts for five hours, occasionally being assisted, towards the close, by Drs. Peaslee and Perry, but no progress was made after the first hour, except to dilate gradually the portion below the seat of inversion to such an extent, that the cervix and uterine canal became lost almost as a continuous cavity with the vagina. For the last hour the circulation became so irregular and feeble that the anæsthetic had to be abandoned, and stimulants, as well as beef-tea, freely resorted to. At length I was reluctantly forced to cease my efforts for the time, but I was determined to make another attempt, and not wishing to lose what had already been gained, I introduced rapidly five deep interrupted silver sutures into the neck of the uterus, and on twisting them drew the sides of the cervix together over the fundus, thus confining it within the uterine canal, as a cover over a ball. This was done on Wednesday; she soon rallied, and within twelve hours had regained her usual condition, still full of hope and not discouraged by the failure. She was kept in bed, and on the following Saturday about noon she felt something suddenly slip, as she expressed it, with immediate relief from a feeling of fulness which she had experienced since the operation. My impression at once was, that the sutures had torn out, or possibly that the uterus had become reduced, but on examination they were found intact, and on

passing the sound between, them the fundus was felt behind. I now felt satisfied that the adhesions above had separated, and that I could almost promise success from the next effort for reduction. In case of failure, however, I determined to freshen the edges of the cervix, re-introduce the sutures, and by uniting the parts permanently, to confine the fundus within the uterine canal.

On the following Wednesday, a week after the previous attempt, ether was again administered, and the sutures removed. The fundus immediately dropped into the vagina, while the extent of dilatation was about the same as had been gained, on each previous attempt at the end of the first half hour; but the mass above, supposed to have been the broad ligament, had disappeared. After she had been examined by the gentlemen, in twenty-seven minutes from the time my hand was introduced into the vagina, I reduced the inverted organ unaided, while about five minutes of which time was occupied in ascertaining her condition. Drs. Clymer and Perry were present at the time of reduction; Dr. Peaslee was also at the beginning, but had been obliged to leave a few moments before to see a patient, with the view of returning to aid me afterwards. The effect of the reduction on the circulation was remarkable, for within half an hour afterwards, the heart's action became regular, the pulse full, and reduced from 150 per minute to 90 beats in the same period. Her whole appearance was improved, and her lips, which had been previously bloodless, became of a natural color. Not a bad symptom supervened; she sat up at the end of a week, and returned home early in July. By a letter from her husband, dated October 26, I learned that she had already regained her previous state of health.

An interesting feature in this case is to determine at what time after labor the inversion was reproduced. Mrs. C., for a year afterwards, was apparently in perfect health, and led an active life, without either she or her husband being aware of a condition which, in a marital relation, would have amounted to a positive obstruction, had the inversion existed during this period to the extent found at my first examination. After the fifth day of the first menstrual period, she was never free from backache, together with a profuse watery discharge, until after the fundus was secured by closing the cervix, and liable to hæmorrhage on making the slightest exertion. The attending physician satisfied himself, as has been stated, that the uterus contracted properly after he restored the organ, and I have been assured, from his professional standing, that he could scarcely have been deceived on this point. Nor is there any evidence that he may have been mistaken, for, so far as we can judge from the literature on this subject, the symptoms of inversion have always been unmistakeable, immediately on the occurrence of the accident. Is it possible that nursing her child could have exerted an influence to the extent of keeping in abeyance, as it were, every symptom of this

condition, if it had existed during the year after her delivery? On the other hand, while the first menstrual period was painful, it was not more so than had been frequently the case before pregnancy, nor was it increased in intensity at any time during this period, to associate any connection with the act of inversion. From the data presented in the case, I confess myself entirely at a loss to offer even a speculation on the subject.

I believe that the procedure resorted to in this case, by confining the fundus within the uterine canal, will prove to be of the greatest practical importance. Where, from any cause, the attempt at reduction has to be abandoned for the time, an extensive amount of dilatation is thus preserved until the condition of the patient will admit of another effort for her relief. On a moment's reflection, it will be evident that a persistent dilating force is at once established, without taxing the strength of the patient, which may of itself, in some cases, complete the reduction unaided. By stretching the cervix over the fundus, an unyielding mass within the uterine canal, a force is exerted on the outside of the organ to roll out the parts above, while at the same time an upward action is at once established below the inversion, by forcing the fundus as a wedge in the direction offering the least resistance, and any action of either of longitudinal or circular fibres of the uterus, or both together, will aid in the reduction. That this force did not succeed in completing the reduction in this case, was due, I believe, to the singularly pedunculated condition of the body; but that the force was exerted to a great degree, is proved by the fact that the adhesions of the broad ligament, when put on the stretch, were separated by its action, although I was unable to accomplish it after a continuous effort of four hours. It requires but little time and patience to dilate fully the cervix and uterine canal by the method I have proposed, so that, if the operation cannot be completed at the time, the fundus can be secured and the same continuous force will be maintained, without endangering the strength of the patient. The point, however, which I wish particularly to establish, is in the treatment of a case proved beyond question to be irreducible, although I should be exceedingly unwilling to acknowledge, under any ordinary circumstances, that this condition was possible. For the future, to amputate the portion of the uterus inverted, if the fundus can be gotten within the cervix, will be, I think, entirely unjustifiable. The inner edge of the cervix should be denuded by scissors, and secured by a number of interrupted silver sutures, or the whipstitch introduced far back from the edge and near the vaginal junction, so as to render it impossible for them to cut out before perfect union had been obtained. It is not advisable that the scarification, should be continued entirely around the cervical canal, but so as to leave an opening at each angle of the line, for the free escape of the secretions and the menstrual flow. By this means all hæmorrhage will be ar-

rested at once; the female will soon recover her strength, and may become pregnant. While under this condition nature may complete the reduction. The band of union would offer but little obstruction to delivery, for if nature did not cause a separation, it could be snipped apart readily with scissors. I would advise, however, before attempting this as a last resort, to simply introduce the sutures, as was done in this case, with the view of making another attempt at some future day, if nature should not complete the reduction. The sutures, if they do not cut out from tension, can be left in for several weeks, provided they are properly bent down flat to the surface. After twisting them over Simm's splint shield, so as to just bring the edges together, withdraw the shield, and, while still grasping the suture with the twisting forceps, pass a tenaculum behind the suture, close to the cervix, to be used as a fulcrum over which the wire is to be bent flat; withdraw the tenaculum and make slight pressure with it on the suture near the forceps, as the end in its grasp is turned up in the opposite direction. The suture should be cut off just at the angle made by the pressure of the tenaculum, and it will then be found to lie perfectly flat, if the manipulation has been properly performed. A silk loop attached to the needle should be introduced first, and the wire drawn through afterwards by its aid. A whipstitch would distribute the tension by relieving it to a great extent at any given point, but it would be more difficult of introduction than the interrupted suture, while the latter, I am satisfied, would scarcely cut out, if a sufficient number were introduced at a proper distance from the edge and not twisted too tight.

Since the publication of my last case (in the April number of this Journal for 1866) I have noticed the report of two successful cases, where the method instituted by me was instrumental in the reduction. In the August number of the *Nashville Journal of Medicine* for 1867, a case is reported by Dr. F. A. Ramsey. The uterus was completely inverted, and presented at the labia. My method was adopted, and after dilating the uterine canal so that the fundus could be carried entirely within the cervix, it was abandoned as a failure in completing the reduction. The vagina was then distended by an India-rubber bag kept inflated so that the fundus could not escape into the vagina; at the end of a number of days the organ was found reduced. Dr. Ramsey attributes his success—unjustly I think—to the use of the inflated bag, which certainly could have been of no service in the beginning, or at all, if the uterine canal and cervix had not been previously dilated sufficiently to have admitted the fundus. It was an ingenious disposition of the case, but the dilatation had been to a great extent accomplished, and could have been successfully terminated in a short time, I believe, if the proper mode of manipulation at this stage had been persevered with.

The second case is reported by Dr. Worster, of this city, in the

October, 1867, number of this Journal, where he states as follows: "Drs Emmet and Thomas, in this city, succeeded in returning one after the lapse of seven months, by a peculiar kind of manipulation (see number of this Journal for January, 1866, p. 149, and April, 1866, p. 403). In the case which I am about to relate, this manipulation was also successfully adopted." Dr. Worster, after the second attempt, used Barnes' dilator, to prevent a prolapse of the fundus into the vagina, and to gain a respite of a few hours before resuming the operation. "From time to time I adopted a suggestion of Prof. Thomas, which in Dr. Emmet's case had seemed advantageous, of drawing down the uterus as far as possible, and then carrying it suddenly upwards, to pass it through the os and cervix, but unsuccessfully." In justice to the other gentlemen who assisted me, Drs. Sabine and George T. Elliot, but especially the latter, I should state that Dr. Thomas's connections with the case was but slight in comparison, as he was obliged to be absent during the greater portion of the time, although the reduction was completed in his hands. For over two hours and a half I conducted the reduction unaided, until, becoming exhausted, Dr. Elliot and the other gentlemen present aided me in turn, until the condition of the patient was becoming too critical to continue. Dr. Thomas at this juncture returned, after an hour's absence; in turn he passed his hand into the vagina, and, as he described it, *drew down the mass so as to reproduce the inversion*, and, on immediately returning it, found that it did so beyond its previous position; he repeated this manœuvre, and on returning it again on the point of his finger (*without force on his part, as he stated*), the fundus passed on, and the reduction was completed, after an effort of three hours and fifty-five minutes. On presenting the case before the New York Obstetrical Society, I stated that I thought Dr. Thomas was mistaken as to the extent of reduction made by him. The portion below the constriction was flaccid, and could be readily drawn down; but above the engaging point, where the surface at this stage were forced into such close proximity, it was a question whether more force would not have been required to reproduce the condition existing at the beginning, than it was possible to have exerted. The final effort on his part doubtless hastened the issue; yet, as the widest portion of the uterus was already so far advanced within the canal, it was possible that the muscular action of the organ itself might, at this stage, have soon completed the reduction, as, from the result, the canal was evidently already dilated sufficiently for the purpose. I likened the condition to an India-rubber ball which had been indented; as soon as the action of recovery had once commenced, the progress of restitution rapidly increased to the consummation. The case was discussed at length by different members of the society, to the above effect, and this view was supported by Dr. Elliot, who was present; and, in fact, Dr. Thomas himself, with great candor, stated that he was satisfied that he had been mistaken.

That the method has not succeeded fully in the hands of others, is either due to the fact that the different steps have not been understood, or the attempt has been made to accomplish too much in too short a time. I will, therefore, briefly recapitulate the mode of procedure, which has already been given at length in my previous reports. A table about three feet high should be used, the patient etherized and placed on the back. Introduce the entire hand into the vagina, and the fingers within the cervix, so as to enable the prolapsed portion with the fundus to lie in the palm of the hand. The canal is to be dilated by rapidly expanding the fingers until the seat of inversion has been reached. At this point grasp firmly the portion of the body just below the seat of inversion, push it steadily up, while counter-pressure is made by the other hand over the abdomen, making the attempt to roll out the parts by sliding the parietes over the border of the ring, at the instant that the fingers are expanded within the uterine canal to their utmost. In this order the procedure must be conducted until the fundus can be passed entirely within the cervix. It now becomes a matter of perseverance on the part of the operator, so long as the strength of the patient will safely admit of a continuation of the effort. As the fundus advances within the canal, the fingers cannot be separated to the same extent, and the effort must be confined chiefly to the upward pressure of the parts grasped by them as near the seat of inversion as possible, while using at the same time the other hand above to slide the abdominal wall over the slowly dilating ring. There is still, however, a dilating force exerted by wedging the fingers between the prolapsed portion and the sides of the canal; for in proportion as the uterine canal in the condition is enlarged in its lateral diameter, must the reduction be advanced by shortening the opposite one. It is well also occasionally, at this stage, to alternate the presure so that it shall bear to first one side and then to the other, instead of continuing the attempt to press the mass directly through always in the same direction. Sometimes it should be a hand to hand motion, as in delivery of the head by forceps. On the same principle, the vagina, for a moment or two at a time, should be placed on the stretch by making steady pressure in the direction of the promontory of the sacrum. By changing thus the direction of pressure in the last stage, a portion will sometimes suddenly slip up, when a moment before the parts have seemed immovable, from being wedged in such close apposition. By resting the back of the hand in the hollow of the sacrum, so as to turn the organ up against the abdominal wall above the pubes, the hand of the operator is placed in a less constrained position, while at the same time the uterus is so steadied that the counter-pressure to be exerted by the other hand is maintained to the best advantage. Towards the close of the operation, the advance of the fundus is hastened beyond question by a rapid change of fresh assistants, so that the force may be as nearly a continuous

one as possible, and not allowed to flag from the fatigue which must follow the prolonged efforts of any one person. This plan was suggested by Prof. Elliot in my first case, and my experience since has fully confirmed its great importance. Too much must not be attempted at first, for until the vagina has become somewhat dilated, and the hand of the operator accustomed to the manipulation, his efforts in the beginning will be to a great extent lost, in consequence of his hand becoming almost powerless from cramp. I experienced far more fatigue formerly than in this case, for I learned to husband my strength until the fundus could be passed within the cervix, when it could be made available to the greatest advantage. I am satisfied that, without regard to its duration, we now possess the means of overcoming a condition which but recently was considered by the profession as almost hopeless. From the success in this case, I feel that this may be justly claimed, as it is scarcely possible that a more severe test to the method could be presented, except it be in some case where adhesions are proved to exist to such extent that it is an impossibility to overcome them.—*American Journal of the Medical Sciences.*

On Atresia Vaginæ: By PHILIP HARVEY, M. D., of Burlington, Iowa.

RETENTION of the catamenial secretion from an imperforated vagina is sufficiently frequent to present strong claims to notice. It is replete with danger, calling imperatively for early aid by surgical means, as it is liable to be seriously implicated by delay. Not only is the uterus distended in these cases, but the Fallopian tubes, which will not safely allow of much distension, are also implicated; and these tubes, when largely distended by retained menses, may be ruptured. Moreover, peritoneal adhesions are liable to occur over the attenuated and irritated tubes, and their laceration has sometimes followed a sudden evacuation of the uterine cavity, from the subsidence of the organ and consequent dragging on the adhesions. The confined fluid may also be forced into the sac of the peritoneum through the apertures of the fimbriæ; and in whatever way the effusion may be caused, death is pretty sure to be the result. Hence it has been properly suggested that the uterine tumor in such cases should never be allowed to reach the level of the umbilicus before attempting to give an exit to the fluid. These remarks premised, I submit the following case:—

Mrs. W., aged twenty-four, was delivered of her first child between two and three years ago. By all accounts, the labor was a difficult one, and her attendants thought it necessary to use the forceps. By some means the os uteri and vagina were badly

lacerated, the rent, I am told, extending into the rectum. For two years, or nearly so, afterwards, she experienced fetid and purulent discharges *per vaginam*, and the monthly flow was regular. About seven or eight months ago, she tells me, the vaginal discharge ceased, and with them the menstrual flow. After a few months she preceived an enlargement of the uterus, with expelling efforts, increasing at each monthly period. When she came under my care, about six months afterwards, I found the uterus considerably enlarged, the fundus rising to near the level of the umbilicus. The vagina terminated in a cul-de-sac two or three inches deep, puckered at the bottom into a hard and ligamentous cicatrix, beyond which could be felt an apparently solid tumor. Her pains, she said, were intolerable, and she was desirous of something more effectual being done for her relief than the administration of anodynes; accordingly, I proposed the operation of dividing the united parts at the bottom of the vagina, which she consented to at once. By cautious transverse strokes with a narrow-bladed knife I divided the united parts upwards in the direction of the cervix uteri, until the cavity was reached, when about a quart of what appeared to be semi-coagulated blood gushed out. The relief was perfect and immediate. A tent was retained in the aperture for a few days after the operation; since then the wound has been kept from closing by the introduction of a large-sized bougie once or twice a day, and she has menstruated three times since the operation, without difficulty. I did not consider a large opening desirable, regarding the wound as a substitute for the os uteri, and not for the canal of the vagina. On first introducing the finger through the wound, I noticed that it passed at once into the cavity of the uterus, no cervix nor os being felt. Three months have now passed since the operation, and the patient declares she has nothing further to desire on the score of health and comfort. She considers herself as well as she ever was. I do not think it will be safe to dispense with the introduction of an instrument for some time to come; the wound may otherwise close, though it does not seem disposed to do so—*American Journal of the Medical Sciences.*

Notes on an Interesting Case of Midwifery: By W. H. Tayler, M. D., M. R. C. S.

On the 22d of April, 1865, I was called to attend a woman, aged twenty-nine, in labor with her first child. Finding the pains were very slight I left. I called again in the afternoon, and made an examination, but could not feel the os. I began to suspect there would be some difficulty in the case, but, as the pains were about the same, I went away, telling the nurse to send for

me as soon as they became stronger. About eight P. M. I was summoned, and now found the pains were of the right sort. I made an examination, but could neither detect any presentation, nor find the os. I felt about for some time, and at last detected a very small indentation (not an opening) about the size of a pea. This I considered must have formerly been the os, and that I had a case of occlusion of it. I also found the pubes projecting very much inwards, making the antero-posterior diameter very narrow, and altogether rendering it a case in which I did not feel justified in acting without a second opinion. I therefore sent for my friend, Dr. Stilwell, of Beckenham. He came, and agreed with me as to the nature of it. We also came to the conclusion that nothing remained but to make an artificial one, and overcome the pubic projection by forceps or craniotomy. I informed the husband of the difficulties of the case; he suggested further advice from town, but I told him the confidence we had in each other by reason of our having acted together in several most difficult cases which had occurred in our respective practices, made us feel quite equal to any emergency, and that we declined the assistance of a physician-accoucheur from London.

First, to make an os, I passed one of the blades of a pair of long scissors through the indentation in the uterus, and made several notches round it, which enabled me to introduce the point of my forefinger into the uterus. We then waited to see the effect of the pains. It did not dilate much. Then, by degrees, I introduced the middle finger, and by stretching the edges, somewhat increased the opening. After three hours' work I managed to get two fingers in, and could feel the head presenting. After manipulating for another two hours the opening was sufficiently dilated to render it advisable to rupture the membranes. This being done, the head, after a time, came down as low as the pubic projection would admit; but here all further progress was stopped. We then applied the forceps, but there was not room enough, and we had to give it up. There was now no help for it but to perforate the cranium. This we did, and after great difficulty succeeded in delivering the woman. There being some placental adhesions, we broke them down, and removed the placenta; and heartly glad we were to complete the case. It was now eight A. M., and we were somewhat fatigued with our anxious night's work. .

The most gratifying part of the case was that the patient recovered without a single bad symptom, would insist upon getting up on the seventh day, and was about as usual in a fortnight. Since then her health has been good, the catamenia regular and without pain, and she is now in the third month of pregnancy. She has left the neighborhood, but will return to it to be under my care for her confinement, and I hope, by inducing labor before the full period, to deliver her of a living child.—*Lancet*,

Case of Injury to Bones and Joints in Parturition: By J. MATTHEWS DUNCAN, M. D.

THE following cases I think worthy of being recorded, on account of their rarity and interest:—

Injury of the Sacro-vertebral Articulation. Mrs. L., æt. twenty-five, had been about three days in labor with her first child, when Dr. Paterson, of Leith was called to see her. He ascertained that the child's head, which was unusually large, hard, and ossified, had been impacted in the brim of the pelvis for at least twenty-four hours, and that the pelvis was small. He found the pulse quick, and a fetid discharge flowing from the vagina. A small quantity of thick fetid bloody urine was taken from the bladder. The long forceps were used in vain, but not with much persistence, as the child was dead. Craniotomy was then performed, and a very large fœtus brought into the world with considerable difficulty.

On the patient coming under my care in the Royal Infirmary, exactly five weeks after delivery the following conditions were observed on exposing the parts and examining them, while she was resting on her back. From the middle of the labia majora downwards to where the hips touched the table, was an ulcerated excavation, 1½ inch broad, and 3 inches long from before backwards, its deepest part filled sloughs, among which the urine trickled. The vagina was found crammed with partially separated dirty yellow sloughs.

On the third day of her residence in the ward, and the thirty-seventh after her delivery, she died of pulmonary embolism, under the following circumstances:—She had in the afternoon been cheerful, and conversing with her husband. At 6 P. M., she took porridge for supper, as usual. About twenty minutes thereafter, the nurse observed a blueness of the face. Soon after, the patient said she felt "faintish," and as if she had taken too much supper. Her uneasiness was confined to the region of the stomach. At half-past six, Dr. Brunton was called to see her. He found her insensible and shivering so as to simulate the movements of an epileptic fit. The pulse was small, the breathing labored, the face pale, the lips bloodless. She could not swallow. The pulse soon became imperceptible, the respirations gasping; and after this state had lasted for about two minutes, death occurred. Dr. Brunton believes he was only about five minutes at the bedside before death.

The post-mortem examination was made by Dr. Grainger Stewart, on the day after death. The following is derived chiefly from his report of it:—

Heart healthy. On the right pleura there is some lymph effused over portions of the lung, into which hæmorrhage (pulmonary apoplexy) had taken place. Both pulmonary arteries contain large partially decolorized clots. Near the brim of the pelvis, considerable serous effusion into the cellular tissues; most

marked about the right common iliac vein, which is obstructed by a partially decolorized clot. The clot extends upwards as far as the vena cava, into which its end projects. The other iliac vein, and its branches, natural. Much serous effusion in the pelvic cellular tissues; no pus. Bladder has the appearances of inflammation; there is a wide vesico-vaginal fistula. On the upper and anterior surface of the bladder, on both sides, are sloughed openings communicating with the cellular tissues of the pelvis, each somewhat smaller than a florin. The left ureter is partially obstructed, and on the same side there is hydronephrosis. The promontory of the sacrum anteriorly, and the adjoining fibro-cartilage, are roughened and denuded to the extent of nearly the area of a sixpence. At this part, a lamina of the upper articular surface of the first bone of the sacrum is separated from the rest of the bone, and adherent to the fibro-cartilage. The peritoneum over this part is bluish and discolored, but entire, and without adhesions. Pelvis has a normal appearance, but its conjugate diameter measures only $3\frac{3}{8}$ inches; the bisiliac, $4\frac{1}{2}$.

This case is remarkable on various grounds. The death by embolism is characteristically examplified; only I wish that the whole symptoms from their commencement had been carefully observed by a physician, as those of the last few minutes of life were. The lesions of the bladder were very extensive, the sloughing process not only affecting the vesico-vaginal septum, but extending to the pelvic cellular tissues. The posterior wall of the vagina was in a slonghy condition. Douglas's space was healthy. But the promontory of the sacrum presented a rare lesion, which is accounted for by the extreme disorganization of the bladder. In every case where the bladder is injured, as in this one, there is the same amount of injurious pressure on the promontory of the sacrum as there is upon the vesico-vaginal septum; but I am not aware that such injurious pressure has ever before been observed to produce permanent injury of the cartilage and bone, as in this case. It is interesting to notice that while the cartilage and bone suffered, the peritoneum was uninjured or entire, both over the sacral promontory and over the upper vaginal and lower part of the uterine wall; these tissues escaping injury, while the subjacent bone and cartilage were destroyed.

Abscess of the Symphysis Pubis. E. M., æt. thirty-four, unmarried, was delivered, three weeks before I saw her, of her second child. Labor was difficult, and terminated by the use of the forceps. She states that shortly after her confinement retention of urine came on, requiring catheterism for a few days. Latterly she has been passing urine involuntarily. She has not been able to use her limbs in walking since her confinement. It has been ascertained that the forceps were unskilfully applied by a beginner.

Uterus high in pelvis, and pushed backwards towards sacrum. In front of uterus the pelvis is occupied by an elastic hardness. Urethra tender, swollen, entire. Vesico-vaginal septum entire.

Along the left side of the whole extent of the urethra is a deep incised-like fissure, ending anteriorly in a cavity, into which the finger can be only partly passed, behind the vestibulum and clitoris. No bare bone can be felt. From the fissure, a probe can be passed three inches behind the symphysis pubis. The symphysis can be felt and heard to move. In a few days after this examination, the finger could be passed into the pubic joint, between the rough denuded pubic bones. Much pus is discharged from the wounds, and in the urine.

It is not necessary to give a detailed history of the progress of this case. The bladder soon recovered its natural functions. The inter-articular cartilages and some pieces of bones were discharged soon after she came under my care. The wound slowly healed up. It was not till this took place, about three months after delivery, that the woman was able to attempt to regain her walking power—which she slowly effected.

In this case, I had no doubt that the injury inflicted by the forceps on the tissues to the left of the urethra, and on the lower border of the symphysis pubis, was the cause of all the woman's subsequent misfortunes.

Injury of Right Frontal (?) Bone of Child. Mrs. C. was delivered by the long forceps of a large child. Traction had been intermittingly used for nearly an hour. The brim of the pelvis was contracted. The mother was well and going about in a few days after delivery. The child also did well. The case was attended by myself and one of my pupils.

I was called to see the child on the fourteenth day of its life, and found a round excavated sore above and in front of the right ear, just where the point of the blade of the forceps had impinged on the skull. From this part there had been discharged a flat round sequestrum of bone, about the size of the flat surface of a split pea.—*Edinburgh Medical Journal.*

On Polypus Uteri: By Robert Dyce, M. D., F. R. S. E., Professor of Midwifery, University of Aberdeen, etc.

The following record of forty cases of polypus uteri, which have occurred in my practice during the last few years, may perhaps merit a place in the *Journal.* All of them have been successfully removed, and the patients restored to perfect health in a very few days. I have only met with two varieties of tumor, viz., the purely fibrous, and the fibro-cellular or vesicular; but by far the greater number were of the former of fibrous variety, only a very few were of the latter or vesicular form. The fibrous were uniformly hard, more or less globular, smooth, and insensible; the fibro-cellular were less regular in shape, only partially firm, but still insensible to the touch. In size they have varied remarkably,

from that of a walnut to that of a child's head, and even larger, the more ordinary size that of a large orange. In two cases their size required a midwifery forceps for their extraction; and in one case the perinæum was ruptured where no forceps were used. The place of attachment has been generally from the fundus, or some part of the cervix uteri; if from this latter, more often from its posterior part; the smaller generally from the lip, or very near it, but as often from one lip as the other. Generally there was a manifest stem or stalk, but some of the larger were sessile, springing from a large surface, and adhering throughout to the wall of the uterus. All the large extra-uterine were sessile. The vaginal had more or less of a stem, yet it was often very large.

With the exception of four cases, they were single tumors. In the exceptions, two had two tumors removed at one time, a third at an interval of twelve months, and the fourth case had a perfect quarry—one large tumor being removed in 1856, two in 1859, one in 1862, and five in 1863. The smallest of these quite equalled a small hen's egg.

The symptoms were very uniform, and the history nearly alike in all, viz., increased catamenia at first, then hæmorrhage to a greater or less extent, with leucorrhœal discharge, and at length the health gave way, and all the consequences of so continuous a drain upon the system followed, viz., prostration, anæmia, and dropsical effusions; and these effects were often irrespective of the size of the tumor, for I have seen often more blood lost, and greater prostration and disturbance to the constitution from tumors not larger than a pigeon's egg, than from one weighing some pounds. The diagnosis of the extra-uterine, or those which had passed either partially or wholly into the vagina, was very clear and easy. They were uniformly insensible when pricked or scratched; and any tumor found in the vagina possessing this character, proceeding from where it might, and with a history such as I have mentioned, was submitted to treatment for its removal with the uniform result of the patient's speedy restoration to perfect health. With regard to intra-uterine tumors, the diagnosis was less easy, as there was not the same tactile evidence for a guide; still, if any case of uterine hæmorrhage resisted the ordinary means of subduing hæmorrhage, it was at once submitted to the test of the urine sound and sponge, or tangle tents, so as to produce dilatation of the os uteri—methods indispensable in all cases of this description—and the result was the discovery of an intra-uterine tumor. I need scarcely urge the necessity of making a vaginal examination in all cases of prolonged hæmorrhage from the uterus or vagina, and thus, as happened to myself some years ago, save a valuable life. I was met by a distinguished surgeon just as he came out of the house of his patient. He said he had been visiting a poor woman dying from excessive hæmorrhage from the womb, which he could not restrain, and asked me to see her. I detected a large polypus, which I tied the next day

at his request. She soon regained her strength, and has been well ever since. He had never examined her.

In the foregoing case the tumor was palpable to the touch, therefore was easily recognized; but when the tumor is intra-uterine, it requires some tact to recognize it. Much will depend upon the amount of education the finger of the examiner has received; for what may be very sensible to one, may not be detected by another; besides this, firm pressure must be maintained above the pubes, so as to press the uterus down into the pelvis—the patient at the time lying on her back, and the knees drawn up and expanded. The mode of removal was various, any single method, in my experience, is not suited to all, though, in by far the greater number of cases, simple excision will supersede every other method; but in some cases it is not necessary, as in the smaller sort arising from the lip of the uterus; and in the larger and sessile, springing from a large surface in its interior, it is quite ineligible. The danger attending this plan—viz., hæmorrhage—has been much exaggerated, as I never saw in a case of purely fibrous tumor, whatever its size may have been, such an amount of blood lost as even to require plugging the vagina, though I make it a rule always to do so for a few hours. But in the cellular variety the circumstances are very different; they are much more vascular, whatever be their size, and have, in every one of my cases, been accomplished with such profuse hæmorrhage at the moment of removal as to require immediate attention.

This circumstance, however, has not prevented my pursuing the same treatment, if the tumor was otherwise suitable for excision, as I found that *the ordinary* tampon, well applied for twenty-four hours, has removed all risk, and should in every case be used. Before I had made plugging a part of the operation, I nearly lost a patient from this cause. My friend Dr. Kilgour had asked me to remove a polypus of this description (fibro-cellular). The operation was speedily performed, and though followed by but a moderate oozing,—more than usual, however,—we did not deem it of sufficient moment to resort to plugging, and had left the house. We were soon, however, hastily summoned. We found the bed soaked with blood; the patient had fainted more than once; and, just as I arrived, she had a violent convulsion (anæmic). By the help of pouring down her throat brandy *ad libitum*, when she was conscious, and the use of a firm plug, she gradually rallied, and though her convalescence was tedious, she regained at length perfect health, and now remains well. This is the only case, out of the many I have treated, where such an amount of blood was lost as to cause anxiety; it was also my first case of fibro-cellular variety. Generally, there is scarcely a tablespoonful lost; still, as the tampon causes no pain, is easily introduced, and at once removes every possible risk, I would recommend its application in every variety of polypus for a few hours, when it has been removed by excision.

The following table exhibits the various methods employed, and the number removed by each plan:—

Excision,	18
Excision with enucleation (double origin,)	1
Ligature alone,	9
Ligature with excision,	3
Trosion,	4
Enucleation,	3
Ergot alone,	1
Ergot with sponge tents,	1
	40

The instruments used for excision were a strong vulsellum, and equally strong curved scissors, which cut principally from near the point, which latter is rounded. The scissors are 10 inches long, and slightly bent; the vulsellum of the same size, but nearly straight. The distance from the handles to the joint, in both, is 7 inches.

For ligature, the double straight canula of Neisson, improved by Gooch and Levret, was used, and latterly an improvement was added, by which the ligature was passed around a winch, and thus more readily tightened; the material used was a strong whip-cord. I once used wire, intending to cut off the tumor at once, but it did not succeed, although the process was shortened. The cord was tightened morning and evening, and the vagina syringed at the same time with tepid water. Usually in from four to seven days the neck was cut through. I never but once saw any constitutional symptoms follow, but the length of time required, and especially the care requisite to prevent injury by the patient impaling herself, and the consequent necessity of keeping her on the side during the period of its application, induced me to substitute the scissors in all my future cases.

For torsion, the vulsellum was alone sufficient; and it is far preferable to two fingers, which some recommend, because once a sufficient hold is obtained, a few turns will readily separate the tumor.

For enucleation, a scratch with the finger-nail has generally answered, and once begun, it is easily completed, provided the tumor is within reach. The rent made in the investing membrane while fixing the vulsellum, is another and ready spot for this purpose, but sometimes a slight snip with the scissors may be required. The vulsellum is here indispensable, both for dragging down the tumor as well as fixing it. This mode of operation is so speedy and so bloodless, that I always now first attempt enucleation; but, in my experience, there are very few tumors so loosely invested as to admit of this mode of operating; still I think it should always be tried.

My first case was accidental. The tumor was very large, and partly intra-uterine. I excised what I believed to be the neck, as it allowed of its descent to some extent, but it was found to have

another and broader attachment higher up within the uterus, with a bridge of strong fibrous tissue between the two attachments. With the first incision of this second attachment, my finger entered a vacuity formed by the tumor and its investing membrane; from this point the separation was cautiously made, and the mass was easily and quickly removed. This part of the tumor was fully larger than a turkey's egg.

The mode of using ergot will be best understood by a detail of the cases in which it was employed. The principle which first led me to employ it was, that, believing, as I do, that during every severe uterine pain in labor the circulation through the vessels of the uterus by which the placenta is supplied is entirely arrested, it occurred to me that if I could first create uterine contraction, and then continue this contraction for a length of time *continuously*, I would arrest the circulation for such a length of time as to prevent the tumor receiving sufficient or any nourishment; that the consequence would be the death of some part of the tumor; and that, once it had begun, it would go on dying and decomposing, and thus eventually the whole mass be brought away. It is on this principle of continuous action that ergot destoys the life of the child in labor, for so long as there are intermissions of ease, I never saw danger from it, but so sure as the pains are constant and without any intermission, the child will die, unless immediately born. It is from the same cause that, in impetuous labor, called "tetanic," where *no* ergot is given, children are lost, the too long-continued action preventing circulation between fœtus and mother, and hence due arëation of the blood for its life and nourishment. This theory I acted on, and succeeded in removing from two patients a tumor of enormous size, in a very few days, which filled the whole uterus, and distended the abdomen to a size far larger than that of a woman at the full time of pregnancy.—*Edinburgh Medical Journal.*

The Postural Treatment of Prolapse of the Funis—an Historical Sketch.

THE two cases, recently published by Dr. Dyce and reprinted in this Journal of May, of prolapse funis treated by Dr. Thomas's postural method, have given rise to considerable comment in Germany as regards the novelty of the practice. We give the gist of the matter as an item of historical interest, and without in the least pretending to question the claims of our distinguished townsman to an independent and original discovery of the method.

It is well known that Kiestra recommended in 1855 essen-

tially the same procedure, but speaks of it as a revival of an old treatment long ago described by Camper and Deventer. K. F. J. Bernbaum has recently been looking up the literature of the subject, and finds that quite frequent mention has been made by authors of the advantages to be derived from posture in the treatment of cases of prolapsed funis. The works of Camper, published about the middle of the 17th century, and referred to by Kiestra, he had no means of obtaining access to. Deventer considers the subject of prolapsed funis *in extenso*, takes up its different modifications, its effect upon parturition and the life of the child, and the treatment it demands. In cases where the cord was pressed against either ilium, he directed to place the woman upon the corresponding side, with raised pelvis, and with the hand (right hand if on the left side, and vice versa,) to lift the head, and replace the cord, then as seemed advisable, either to bring the head into the pelvis, or to turn and extract by the feet. When the cord was pressed against the pubis or the sacrum, he advised that the midwife should place the woman upon her knees with her body thrown forward, and that, in this position, the accoucheur should raise the head, and return the cord; if the woman should be too weak for this, she should be placed upon the side with one limb drawn up under the body. John Mowbray advised that the woman, if strong enough, should be placed upon her knees and elbows in cases where the cord lay next the sacrum or the pubis. Henry Bracken, a pupil of Boerhaave, proposed returning the funis in head presentations, with the woman placed upon the knees, and afterwards, to bring the fœtal head into the pelvis. Ludwig Wilhelm von Knœr devoted a long chapter to funis presentations. He says: "Introduce the hand so soon as the membranes rupture, and according to the position of the child, perform either podalic or cephalic version, placing the woman at the same time upon her knees to prevent the protrusion of the cord." George Daniel Bœssel recommends turning in cases of funis presentation, and in cases difficulty to perform version with the woman placed upon the knees. In recent times, Van Ritgen has certainly been the most ardent partisan of postural methods of treatment. In his work entitled "Auzeigen der Mechanischen Hülfen bie Entbindüngen," published in 1820, he recommends them in a great variety of circumstances, but not then for prolapsed funis; but in his "Lehr und Handbuch der Geb. Hülfe fur Hebammen," (Mainz, 1838,) he says: "When the funis presents, the midwife should instantly send for the accoucheur; meanwhile she should herself place the woman, if strong enough, upon her knees and elbows, and attempt the replacement of the cord; if the woman is too weak to admit of this, she should be placed upon her side with elevated pelvis. That side should be chosen upon which the funis is not situated. If the manipulation is successful, the posture should be maintained to prevent a recurrence of the prolapse." He recommends the

position upon the elbows and knees for cases of prolapsed funis and transverse presentation in breech or foot presentations, also, where the head is movable above the brim, and where there is no attainable presenting part. He advises returning the funis high up with the hand, and then to let it fall into the uterus where it would no longer be subjected to pressure. After reposition place the woman upon her side, with raised pelvis. Sometimes the postural method suffices without any manipulations. Kiestra advises the position upon the knees and elbows, in cases where the cord was felt near the head previous to rupture of the membranes, to prevent the occurrence of prolapse. After the rupture of the membranes, he says the same position should be employed to facilitate the return of the cord, and should be maintained until the head is fairly engaged in the pelvis. Where the position could not be endured long enough, he counseled placing the woman in a half kneeling, half recumbent posture, with a side supported by cushions. Theobold, in 1860, hit upon the same idea. He considered the most favorable condition for the return of the funis was to place the woman upon her head, but in view of the difficulty attending the execution of the manœuvre, compromised the matter by suggesting the position upon the elbows and knees.—*New York Medical Journal.*

Case of Cæsarean Section—Mother and Child both saved: By Wm Warren Greene, M. D., Professor of Surgery in Berkshire Medical College, the Medical School of Maine, and in the University of Michigan.

On the 20th of August, 1867, I was called in consultation to see Mrs. B., aged twenty-eight, in her first labor, which began twenty-six hours previous to my arrival. Her physician, Dr. D. N. Emery, now of San Francisco, then spending the summer in Western Massachusetts, informed me that his patient had a pelvic deformity, which he feared would render delivery impossible, and he had for this reason called counsel. Upon examination, I found the antero-posterior diameter of the superior strait less than two inches.

Her pains were strong and frequent, and she began to exhibit marked symptoms of exhaustion, to which her consciousness of peril contributed not a little. The child was very active *in utero.* Upon explaining to herself and friends the probable impossibility of delivery *per vaginam*, and that even were there a bare chance of success by evisceration, she would, in her exhausted condition, incur greater risk from the operation under such circumstances

than from abdominal section, the latter operation was assented to. The case was so urgent as to admit of no delay, and we were therefore obliged to proceed with less assistance than I could have desired. We were, however, fortunate in having the aid of Mr. Lewis Le Berne, of New York, a medical student, who happened to be in the neighborhood—a very intelligent and efficient man—and in addition we had the services of two of the most efficient ladies it has ever fallen to my lot to meet in the lying-in room—calm, self-possessed and intelligent.

The patient took a full dose of fluid extract of ergot with a little brandy, after which ether was administered. When under its influence, she was placed on a table, in the ordinary position for ovariotomy. I now, standing at her right, and while the abdomen was carefully supported on either side by assistants, with a common scalpel made an incision in the median line from a little above the umbilicus nearly to the pubes, which was soon carried through the abdominal walls and the uterus exposed. This organ was then incised from the fundus downward about six inches, the knife being used very cautiously until the cavity was opened and the *liquor amnii* evacuated. On carrying my right hand into the uterus, I readily seized the feet (which were on the left side, it being a vertex presentation), and with little delay extracted the body, but some difficulty was experienced in delivering the head, occasioned by the powerful and unremitting uterine contractions, intensified, as I supposed, by the ergot. This, however, was soon accomplished, and the little fellow—a boy of eight pounds—cried lustily. Without waiting to sever the cord, an assistant supporting the child, I again introduced the hand in search of the placenta. This was attached on the left side about midway between the neck and fundus, and about one third of it was detached. The remainder was readily separated, but its extraction, which was soon accomplished, with the membranes, was by no means an easy task. I had not anticipated so powerful muscular action in an organ thus mutilated.

There was considerable hæmorrhage during the delivery, but not sufficient to cause any serious apprehension, and it ceased at once upon the removal of the placenta, the edges of the uterine wound being nicely approximated by the contractions of that organ. Unquestionably the ergot had fulfilled the indication for which it was given, namely, to control hæmorrhage and secure apposition of the cut edges by its action upon the uterine muscular fibres.

After carefully cleansing the parts with sponges dipped in water at blood-heat, and then thoroughly moistened them with artificial serum at the same temperature, the external wound was closed by interrupted sutures placed half an inch apart, and including the entire thickness of the parietes except the peritoneum. These were of silk soaked in boiling wax, as we had no silver wire at hand, a fact that caused me not a little anxiety at the time. although I may say, not only from its use in this but in many

other instances, that smooth, well-twisted silk sutures thus prepared approximate very closely in value to those of silver.

The abdomen, which had been unremittingly supported by the hands, was now enveloped in a firm bandage, and the woman put in bed well covered, and dry heat applied to the extremities, which were rather cool. They soon became warm, however, and as soon as she could swallow she got twenty-five drops of fluid extract of ergot and half a grain of morphia. After the effect of ether had passed away, the pulse was over 100 and rather feeble. Countenance pale, with that peculiar expression which indicates a marked shock. She was rather restless and *wakeful*. She now got morphia and brandy, with beef-juice, and from six, P. M., till three, A. M., she took one grain of morphia and *one quart* of brandy. (This amount of morphia in addition to the half grain which she took at five o'clock, just after the operation.) Just after three, A. M., she fell into a quiet sleep, which lasted five hours, from which she awoke in excellent condition.

The treatment now instituted was perfect quiet; anodynes *pro re natâ*, ten drops of fluid extract of ergot and twenty-five drops of tincture of muriate of iron every four hours, the two alternating—the former to be omitted in forty-eight hours and the latter to be continued, if borne by the stomach, until the external wound was healed.

The farther history of the case contains nothing of special interest. The external wound healed throughout by first intention. A moderate peritonitis followed, but not sufficient at any time to require *heroic* doses of opium. The iron was well borne throughout, and the lochial discharge occurred and continued as after an ordinary case of labor.

In a letter dated Aug. 30th (tenth day after the operation), Dr. Emery says :—"Have just returned from Oak Hill, and am happy to report Mrs. B. in fine condition. I have removed the last stitch. There is very little fulness or tenderness of the bowels." The mother and child are now in excellent health.

Too much praise cannot be bestowed upon physician and nurses for the skilful and careful after-treatment of this case, and especially to Dr. Berne, who hardly left the bed-side for a week after the operation.

Before closing this paper, I cannot forbear saying a word about that old-fashioned and somewhat homely remedy, the muriated tincture of iron. While all members of the profession admit its virtue as a restorative hæmatic in some degree, yet I believe very few are aware with what *rapidity* and *certainty* it increases the plasticity of the blood. Why the difference I do not know, but I feel very sure that no other chalybeate preparation is to be compared with it for this purpose. Given for a time previous to, or immediately after, operations, as a prophylactic against erysipelas, phlebitis, ulceration, secondary hæmorrhage, etc., it is invaluable. But it must be borne in mind that for a decided and rapid im-

pression, *large* doses are requisite, or smaller ones given very frequently; and these doses are usually well borne if care is taken to *dilute* and *sweeten* it thoroughly. It can thus be made for a patient a little thirsty a comparatively pleasant drink. My friend Prof. E. Andrews, of Chicago, some years ago called the attention of the profession to these facts, and it gives me pleasure to corroborate his views and statements from my own experience. —*Boston Medical and Surgical Journal.*

Pittsfield, Mass., Nov. 5, 1867.

[Apart from the practical interest attached to every case of Cæsarian section, there are a few points in the management of the above that excite our special comment. We observe, first, a faithful illustration of practice consequent upon the teaching, that "under such circumstances," speaking of lingering labor from pelvic deformity, "it becomes our bounden duty to wait till the exertion sustained has produced no small degree of exhaustion before we have recourse to such a horrible alternative as the instruments for craniotomy supply." How much more must it become our bounden duty to wait before we have recourse to such a horrible alternative as the instruments for Cæsarean section supply. True it is, the conduct of the case was strictly upon the principle that "we must wait till some circumstances appear which call imperatively for relief and assistance," yet are we impelled by an unsatisfied mind to seek a reason why Mrs. B. was allowed to labor twenty-six hours, and to "exhibit marked symptoms of exhaustion" in the demonstration of a proposition the simplest in mechanics; it having been ascertained that the conjugate diameter afforded "less than two inches." Was the impossibility of delivery more conclusive after twenty-six hours of exhaustive effort than it was after the first or the third hour of the second stage? Was not the success of any operation "a bare chance" when, in her exhausted condition, the urgency would admit of no delay?

In relation to the measures adopted, we cannot comprehend why "Her pains were strong and frequent," and yet "the patient took a full dose of ergot," inasmuch as the result, "some difficulty was experienced in delivering the head, occasioned by the powerful and unremitting uterine contractions, intensified, as I suppose, by the ergot," might have been foreseen, as well as an increased risk of hæmorrhage from the relaxation of exhaustion liable to follow "powerful and unremitting uterine contraction." "Unquestionably, the ergot had fulfilled the indications for which it had been given, namely, to control hæmorrhage and secure apposition of the cut edges by its action upon the uterine muscular fibres." Was there an indication for the tenesmic action of this drug when the pains were strong and frequent? J. H.]

Spring and Self-Retaining Speculum: By NATHAN BOZEMAN, M. D., New York. Revised by the Author for the New Orleans Journal of Medicine, from New York Med. Record, Jan. 1, '68.

THE vagina, as a membranous canal in the distended state may properly be said to represent a truncated cone with the base turned upward and the apex downward, corresponding with its mouth.

The general outline of the organ, as viewed in its natural condition, is such as would result from bringing the two opposing walls of the cone together, the cervix uteri being encircled by it at the centre of its base, and its mouth closed by the falling together of the labia majora.

The line, therefore, formed by the anterior and posterior walls of the organ coming together is transverse, while that formed by the opposing surfaces of the labia is antero-posterior, being at right angles.

Now the most natural indications for the dilatation of this canal with the peculiarities named would appear to be, first, separation of the labia, and, second, the two opposing walls of the collapsed cone, so to speak. This, scarcely need I say, is the view generally taken of the relationship of these parts, and the usual practice is based upon it of bringing within the field of observation the cervix uteri and the two vaginal walls.

This plan of antero-posterior dilatation of the vagina, it matters not what form or speculum is used, I conceive to be a popular error, and it is wholly at variance with the true anatomical relationship of the parts. I shall presently attempt to explain more fully my meaning in our description of *a new form of speculum*, which I have the pleasure of presenting now to the notice of the profession. The principle of construction, as well as principle of action of this new instrument, will be found to differ from all others heretofore in use in several respects, which I shall explain farther on. Suffice it to say, one of the very essential differences is in what might be termed the working point of the instrument, that portion which is applied to the resistance. The blades of our instrument are introduced between the opposing walls of the vagina edgewise, instead of flatwise as formerly, and the dilatation is affected transversely or horizontally, as will be better understood when we come to explain the principle of action. The same instrument applies to the dilatation of the vulva as well as the vaginal canal; thus giving us at one glance a view of the parts from the mons veneris to the cervix uteri in front, and behind, nearly the whole of the posterior wall of the vagina—any and every point within this extensive range being accessible for operative purposes.

The dilatation thus effected is so regulated that the labia and the two extremities of the vagina are put upon the stretch only to the extent desired, which is in strict accordance with the anatomical confirmation of the parts, this being of such a nature

as to make the instrument *self-sustaining*, one of its peculiarities; another being *elasticity of flexure*. This principle of elasticity has never before been embodied in any form of speculum that I am aware of, and its utility and importance, in my judgment, cannot be too highly estimated. Instead of the hard, inflexible blade formerly used, touching only at one or two points soft and delicate structures, we have now the soft, elastic spring adapting itself to all the points of resistance with a uniformity to be attained in no other way.

The indications for complete dilatation of the vagina and vulva I conceive to be four:

1st. Elevation of the perinæum.

2d. Elevation and support of the upper part of the posterior wall of the vagina.

3d. Tranverse dilatation of the labia majora and the mouth of the vagina.

4th. Distension and steadiness of the upper part of the anterior wall of the vagina, the vesico-vaginal septum.

Now these are the indications to be fulfilled, according to my judgment, independent of any and all efforts of the patient to the contrary; and any instrument, whether *self-retaining* or *not*, that does not meet these ends, must be regarded as incomplete. With my instrument I claim the accomplishment of all, *the fulfillment of the third and fourth indications* being an advance beyond all other methods, to say nothing of the *self-retaining* quality of the instrument, which it must be admitted is based upon more correct principles than any plan heretofore presented to the notice of the profession.

As regards the position of the patient I propose a few remarks before entering upon the description of our instrument, as I consider this of no little consequence in certain operations, especially those upon the anterior wall of the vagina.

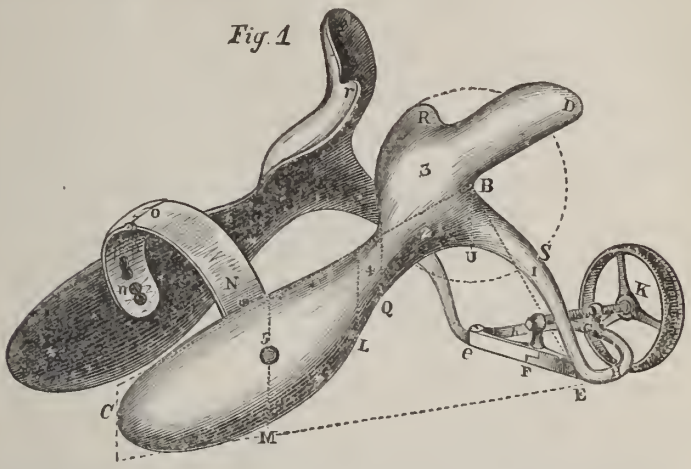
While our speculum is equally well adapted to all positions, I prefer in the description and application of it to consider the patient resting upon her knees and breast, the body forming a right angle with the thighs, and the thighs a right angle with the legs. This position I now prefer to all others, and with propriety it may be termed the *right-angle position upon the knees.*

In no other position, according to my judgment, whether chloroform be used or not, can the patient be made so easy, comfortable, and secure, and without the aid of assistants. Our supporting frame when folded up is compact, light, and portable, and weighs only eleven pounds. It exceeds twelve inches in height, only on one side, the depth and width being twelve by eighteen inches. I hope before long to be able to publish a description of this *thoracic rest or support.*

We have come now to the most difficult part of our task, a description of this speculum.

Fig. 1 (half size) represents a front quarter view of the instrument, expanded as when introduced for use.

Fig. 1



The general features of it as shown, are outstretched arms, expanded wings, rolling surfaces, standing and projecting arches, broad, contracted, narrow and rounded points; and the thumb-screw arrangement indicates that the whole is moved by a system of leverage.

The proportions of the instrument are, I think, in harmony, and the construction will be found to be in strict accordance with well-known geometrical principles. It may be said to be composed of two simple, similar bent steel levers, about eight and a half inches in length, rounded and flattened at certain points, having elasticity of flexure, and connected at one extremity by a pivot joint around which they revolve horizontally

For description, therefore, as is most naturally suggested from its general outline, it may properly be divided into the foot and heel, including thumb-screw and short levers, and into the legs, body, wings, neck, and arms or blades, as indicated by Fgs. 1, 2, 3, 4, and 5.

The description of the foot and heel we will defer until we come to study the principle of action.

I shall consider B the centre of the instrument; the plumb line U, dropped from it, the balancing-point.

The legs where they leave the heel E and *e* are rounded, a quarter of an inch in thickness, and for a short distance ascend almost perpendicularly, inclining slightly forward and inward. In the next part of their course they become gradually more and more flattened, extending now almost directly forward, only inclining slightly outward.

The line U indicates their union with the body. Their length is two inches and three-eighths. This parts of the instrument

applies to the purpose of dilating the vulva or labia majora. The lower part of the legs falls just within the fold formed by the inner part of the thigh and the labia, while the upper portion passes between the latter about the commencement of the nymphæ, and thus reaches the mouth of the vagina, which corresponds exactly with the plumb line U, the balancing-point.

The body is included between the two lines U and Q, and is somewhat quadrangular in shape, rounding on its outer surface and hollowed out on the inner side to the same extent as the upper part of the leg and the wing standing upon its upper edge, as indicated by the line B Q. This part of the instrument is applied directly to the transverse dilatation of the month of the vagina. The wing is of a peculiar shape, and for the sake of description may be divided into the lower and inner portion and the upper and outer portion. The first part presents a rounded surface from right to left, and up toward the projecting angles R *r* looks almost directly forward. These projecting arches are about three-quarters of an inch wide, at the angles are about one inch above a line drawn across from centre to centre. This part of the wing, with its fellow of the opposite side, gives support to the perinæum, which lies across from one to the other, just as the bridge spans the stream. The upper and outer portion of the wing looks forward and outward, and is intended to support the buttock. The neck between the two plumb lines Q, L, is about half an inch in length and width, and as shown is the most contracted part of the arms. This point comes just within the month of the vagina, and consequently prevents painful stretching of the parts here in the expansion of the blades.

The arms or blades form the widest part of the instrument, and are intended to distend and steady the vesico-vaginal septum. They are thin, spoon-shaped, about two inches and three-eighths in length, and at M one and a half inches wide. On the middle of this line is seen the countersunk head of the rivet which passes through here and gives support on the inside to the extremities of the arch N *n*, connecting the blades at this point. This arch is four and a half inches in length, connected in its middle by a hinge joint O, and about three-quarters of an inch in width. It should be made of steel, and so thin between the joint and extremities as to allow of easy bending in the opening and shutting of the arms, There are two holes near each end, with slits in upper edge to encircle the narrow neck of the rivet when in use. This arch may be used or not, as circumstances may require, it being easily slipped off or on. When used it is intended to elevate and support the upper part of the posterior wall of the vagina, it being the fulfillment of our second indication. It is easily elevated or depressed with the finger, and when in position stands about one inch above the edges of the blades, and on a plane slightly above that of the projecting angles of the wings R *r*. Nearly the whole of the instrument, as will be seen by

reference to the figure, is included within the legs of the right-angled triangle E B C, only the foot, legs, and wings being outside. The circle D R Q S has its centre at B, the centre of the instrument, with a radius of one inch and a quarter, the length of the line of union between the root of the wing and the body. This circle, as is seen, includes nearly the whole of the wing, the body, and a large part of the leg. This angle and centre of circle, I should observe, are important points to be borne in mind in the manufacture of the instrument. They should be preserved in all cases, it matters not what change may be found necessary as regards proportions.

The instrument, when set upon a table, has its foot flat upon the surface, touching nowhere else excepting at the point near the ends of the blades, as indicated by the base line of the angle E C, which measures four inches and three-quarters. The leg E B measures two inches and three-quarters, and C B four inches and a half.

From centre B to corresponding point of opposite side, the distance is two inches and a quarter. Between tips of wings D *d*, four inches and a quarter. Between commencement of neck Q, three inches. Between blades at M, measuring from outside to outside, four inches. Between points measured in the same way, three inches and a half.

The instrument is to be made of steel, electro-plated, as light as is consistent with the strength required, there being certain points, of course, where this is an important feature; for example, the foot and heel of the instrument.

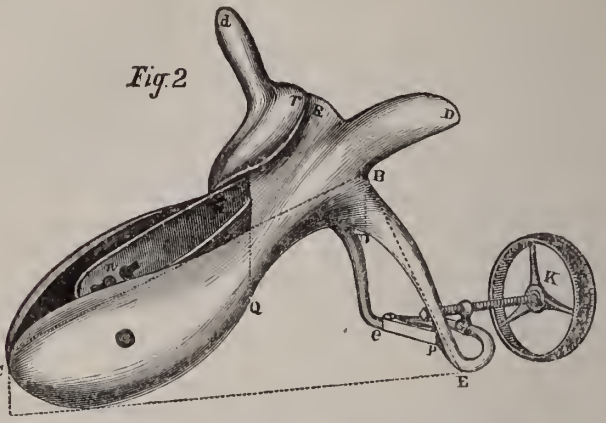
The *elasticity* of *flexure*, it should be borne in mind, extends only from the heel to the extremities of the blades, increasing of course in extent as the latter points are approached. The limit of elasticity at the points of the blades should not exceed three-quarters of an inch under any amount of resistance here, and this should be borne in mind in *tempering* the instrument, otherwise the limit might be exceeded, and the usefulness of the instrument thereby endangered.

Fig. 2 represents the instrument closed, ready for introduction or withdrawal. It being collapsed, so to speak, every point of the opposing sides is brought into close relationship. The elevated arch standing above the edges of the arms or blades, as seen in the first view, is now folded within them, the upper part of it resting beneath the hugging arches, R *r*.

In this view of the instrument, there are three divisions made by the two plumb lines U and Q, which are important as directing attention to the uses of the respective portions. The leg, for example, included within the first division, performs the part of separating the *labia majora*. The wings and body of the second division elevate the *perinæum*, and open the *mouth of the vagina*, to the utmost limit transversely. The arms or blades of the third division *unfold* and *steady* the *vesico-vaginal septum*, or upper part of the anterior wall of the vagina, and at the same time give

support to the two extremities of the arch which spans the space between them, and receives upon its top the *falling posterior wall of the vagina.*

Fig. 2



The thumb-screw K is seen reversed to its fullest extent, and the two short levers quietly folded within the foot of the instrument, the point P being now in close proximity to the pivot G.

We come now to a consideration of the principle of the instrument, and I will state in the outset, as thus applied it is new and original with myself, it never having been applied before, that I am aware of, by any one, to the purpose of a speculum.

The principle itself, however, is an old one, as regards its application to other purposes. It will be familiar to those who may have seen a certain kind of *cotton press* in the Southern States, in which it is employed, though with a more extensive system of leverage than I have here. I got the idea myself from seeing the above application; and the credit I am entitled to is the modification which I have made of it, to suit the purposes of a *self-retaining* speculum, the principle of which we will now attempt to describe. This principle, as here applied, I have no hesitancy in saying, forms one of the most beautiful illustrations of the parallelogram of forces as producing curvilinear motion that could be conceived, and answers, in the most satisfactory manner, the purpose for which it is here intended.

In studying the law of forces, there are several important points always to be borne in mind, whether applied to the rudest lever or pulley, or to the most complex piece of machinery. As these points are or are not understood, depend success or failure.

Professor Silliman,* who is authority in matters of this sort, says: "To determine a force with precision, we must consider three things: 1st. The point of application. 2d. The direction. 3d. The intensity or energy with which the force acts."

Inattention to one or more of these rules has, I am satisfied, caused the failure of all previous efforts at getting up a *self-retain-*

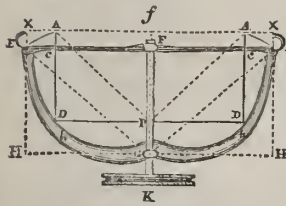
* Principles of Physics.

ing speculum, to fulfill all the indications previously named. I am free to confess myself that I failed in many of my efforts from this very cause.

My greatest error I now conceive to have been in the point selected for the application of force. Had I the time and space, it might be interesting to show how I labored to extricate myself from this difficulty; but as it is, I shall be content for the present with saying that this instrument, as here exhibited, is not the work of a day, or a week, or a month, but years of patient thought and repeated disappointments.

Let us now turn our attention to the diagram, Fig. 3, which is also a half-size front view of what I have denominated the foot of the instrument, here represented closed and expanded, with both legs cut off at the heel E and E.

Fig. 3.



The two sides E *h* G together form, as is seen, almost a semi-circle, with a radius of one and a quarter inches. In the middle, where they unite, is the pivot-joint G, and here is the point of our application of force.

These arms are inflexible, somewhat round, and almost of uniform thickness, not exceeding a quarter of an inch anywhere, excepting at the pivot and ends, where they swell out a little, to give additional strength.

Within these arms is situated our plan of leverage for opening and shutting the instrument. This consists of a double-threaded thumb-screw K, about one inch and three-quarters in length, and three-eighths of an inch in thickness, with an open wheel on the outer end, one inch and an eighth in diameter; and of two short, stout levers, one and a quarter inches long. These latter are connected at one extremity by a joint at the heel E and E, two and a half inches from the pivot G. At the other extremity they are connected together by a joint at P. Rising above three-eighths of an inch, is to be seen the connecting screw of this joint, expanded, and perforated to receive the extremity of the thumb-screw, upon the extremity of which, on the outside, is placed a small tap. In the same manner the thumb-screw passes through the connecting pivot-screw G, which is the nut, the former being free to move both forward and backward.

Let the two lines now on each side, A D and P D, represent the instrument closed, A *f* and P *f* completing the rectangle or square. The diagonal P A will then represent the situation and relationship of the two short levers previously described.

To open or expand these arms now to the full extent, we have, as would appear, two forces, A P and A P, acting at an oblique angle, a very great mechanical disadvantage, as will be readily understood, for "when a force acts upon a body at any other than a right angle, a part of its effect is lost."

The difficulty, however, is overcome and the accomplishment of our purpose rendered easy by resolving each of these oblique forces into two, P *f* and A *f*, one parallel and the other perpendicular to the point to be moved. This is effected by revolving the thumb-screw K until it assumes the position of G F, and the short levers that of E F and E F. The latter together now form a straight line—a relotionship that places the whole instrument in a state of equilibrium; the weight of the two sides, being equal, is exactly counterpoised at F. Complete now the parallelogram E H G, and we have the diagonal G E, the resultant of the two components thus applied, which give us the diagonal or oblique relationship of the arms of the instrument which is here so beautifully carried out. In this resolution of forces, therefore, our power is seen to pass through the arc of a circle which is the diagonal of the small parallelogram A *e*, E *x*, the distance A E being three-eighths of an inch. As it is with the seat of power so it is with every other part of the instrument to the extremity of its blades, which, with varying radii, pass through the arc of a circle the length of the first of which, as well as the velocity, increasing with the distance from the pivot G.

For instance, at the centre or balancing-point of the instrument U, Fig. 1, corresponding to the mouth of the vagina and about one inch from the seat of power, we have the arc increased from three-eighths to half an inch, with a total expansion of the arms at this point of two and a half inches. And at the extremity of the blades, a distance of about five inches from the same point, the arc is increased to one and a half inches, giving us a space between the opposing blades of three inches for operative purposes.

At the two points named the limit of expansion of the blades corresponds exactly with the limit of the dilatation of the mouth of the vagina, and its upper extremity, which alone is sufficient to explain the *self-sustaining* and *self-retaining* feature of the instrument.

In the application of our power then to the thumb-screw K, the position of it is most advantageous for producing its maximum effect in collapsing or carrying the two short levers from their oblique relationship to that of right angles with the point acted upon, thus affording an example of increased power with increased resistance. The instrument with the above system of leverage may properly be said to represent a *double bent lever*, the most familiar example of which is the *fire-tongs*. Unlike these, however, it has the power applied on the inside instead of the outside. Alike, though, in the important respect of having the power applied between the fulcrum and the weight or resistance distinguishing both at once as levers of the third class.

This instrument I shall call *the spring and self-retaining speculum*, as is most naturally suggested from these two distinguishing qualities of it.

I think I may justly claim for this speculum orignality in:

1st. The system of leverage employed, possessing, as it does, regulated and increased power, reduced to the smallest possible compass, and far away from the mouth of the vagina, thus allowing the freest and widest range of manipulation with instruments, compatible with the nature of these parts.

2d. Transverse action of the instrument, with uniformly varying movement of the working-point, extending from the heel to the point of the blades, thus making the lateral walls of the vagina the seat of pressure instead of the anterior and posterior, as formerly.

3d. Complete exposure, at the same time, for operative purposes of the vulva, both walls of the vagina, and the cervix uteri, with the two polished surfaces of the arms of the instrument standing upon the sides, the most favorable position in which they could be placed to secure the greatest amount of reflected light.

4th. Elasticity of the working point of the instrument.

5th. Being self-retaining in the fullest sense of the word.

6th. Being equally applicable in its use to all positions of the patient.

7th. Allowing all operations to be done without the aid of assistants, or exposure of the person of the patient, further than the parts immediately brought within the field of observation by the expansion of the arms of the instrument.

All of these points, I am safe in saying, admit of the clearest demonstration.

Remarks.—Having now completed the description of our *spring and self-retaining speculum*, it remains for us to offer a few additional remarks upon its application in practice, and the circumstances under which it was first done; for it is reasonable to conclude that the question will be asked, where is the proof of all the advantages which have been portrayed at such length?

The only proof I propose to offer, and I think this conclusive, is the application of the instrument in a single case, the very one to which it was adapted in completing it as here shown. This case being an extreme one, as will appear, has the advantage, I think, of rendering the proof convincing to the practical mind, and lessens the necessity, I conceive, of additional corroborative testimony to satisfy even the most skeptical. The case referred to was one of vesico-vaginal fistule occurring in a very stout, fleshy woman, weighing upwards of two hundred pounds. Early in October last she was admitted into that admirably conducted institution under the direction of the Sisters of the Hobokĕn St. Mary's Hospital, where my patients are now received.

The fistule was of six or eight months' standing; small, not larger than a pin's head, and occupied what we would ordinarily term a favorable position, being some three inches above the *meatus urinarius*, and near the edge of the septum, upon the left side.

The peculiarity and difficulties of the case were these: Ante-

version of the uterus; a convoluted or folded condition of the two opposing walls of the vagina, which was of immense size; and a pleated condition of the edges of the fistule, and the parts immediately snrronnding it.

Assisted by Drs. Finnell, Connolly, Lynch, Metcalfe, and several other medical gentlemen of New York, and Dr. Chabert, of Hoboken, I undertook my usual operation, the patient resting upon her knees and elbows. My fourth size of the lever specnlum, with a blade four inches long, one and a half inches wide at the heel, and one and three-quarter inches near the point, was employed; and althongh of snch large size, this instrument, with spatulas and depressors, bronght to bear from various points by assistants, afforded us only an imperfect view of the very small fistule. The upper part of the posterior wall of the vagina came down in snch immense folds over the end of the instrument, met by the same folded and protrnded condition of the anterior wall, under violent and almost continnous expulsive efforts, that it became qnite impossible to commence the process of paring the edges of the fistnle, and to complete it in a regular manner. This stage of the operation, however, was gone through with after the length of time indicated, only to be followed by a still greater difficnlty and delay in the next—the introduction of onr sutnres—only three being called for. The patient, at this stage of the operation, was placed upon her side and chloroformed, which, however, afforded us no relief from the surrounding difficulties.

Suffice it to say, the operation, after three hours, with five or six assistants, was finished, though in a most unsatisfactory manner.

Now, after all our labor and annoyance, I felt that a failnre was inevitable, and so expressed myself to the gentlemen present. The removal of our suture apparatus on the eighth day proved too trnly the correctness of my misgivings as to the final result. There was a total failure.

With a full understanding now of the difficulties of the case, and seeing the result of the extraordinary efforts which had been made in this operation, I contemplated, I frankly confess, another operation with dread and ill forebodings.

I determined, however, that I would not undertake another until I could devise some plan of securing the patient effectnally in the right-angle position upon the knees, which I had had in contemplation for several years; and, if possible, to complete my new speculum, believing that no better case could be found to test its merits. Accordingly, I drew a plan of my *thoracic rest*, alluded to in the former part of this paper, and placed it in the hands of a carpenter, who had it ready for use in five or six days.

As to the speculnm, this was not so easily completed, as it involved a radical change in my original plan, arising from a fundamental error in its constrnction, which I had not discovered nntil

this particular juncture. An explanation of this change would necessarily require a description of the instrument and all the alternations made in it from the beginning, which would far exceed the limits assigned to these remarks in the outset.

On the 20th of November it was so near completed as to enable us to use it.

The patient was now placed in our new position, and thus secured upon the *thoracic rest*. The position was now found to be admirable, and the confinement of the patient perfect.

Chloroform was next administered, and our speculum, as here shown and described, was introduced and expanded to the fullest extent. A reference to the limit pointed out on a former page will give some idea of the enormous size of the vagina. In short, the dilatation of the vagina, regarding all the indications which we have pointed out, was most complete and satisfactory. The insignificant fistule which we had labored so hard to bring into view a few weeks before and failed, now showed itself in its fullest dimensions, steady and immovable, even in the very face of the most violent expulsive efforts of the patient from bearing down and vomiting, before which we stood almost powerless and helpless in the previous operation, with every assistant that could be employed.

I now viewed the parts of operative procedure for the first time with a feeling of certainty as to the result. At my leisure I began the operation, and completed it by my ordinary method, without the aid of an assistant, further than to wash sponges and give chloroform.

In twenty-five minutes our patient was removed from the table and placed in bed, totally unconscious of what had been done. Ten minutes of this time, I should observe, were lost in consequence of a little hæmorrhage which had to be controlled before introducing our sutures.

Thus was achieved, I conceived, the greatest triumph of our professional life.

The above operation was done in the presence of Drs. Thomas C. Finnell, Thomas S. Bahan, Joseph S. Crane, of New York, and Dr. Chabert, of Hoboken, all of whom expressed their entire satisfaction at the result.

To Dr. Finnell I am under many obligations for having so opportunely placed under my charge the above patient, so well adapted to the completion of our instrument. Without such an opportunity our success might have been deferred many months longer. There are also due Dr. Chabert many thanks for his kind attention to the patient during the after-treatment.

The result in this case, however satisfactory it may be viewed in the important respects mentioned, merits additional interest, I think, from the fact that the instrument actually employed in the case, and from which these drawings have been made, was completed by my own hands in *gutta percha*, *sheet lead*, *and iron*

wire. To Messrs Geo. Tiemann and Co., 67 Chatham street, however, I am under great obligations as regards the foot, leverage, and legs of the instrument, and the many changes and alterations made from time to time in order to reach this stage of completion. They placed at my disposal an experienced and finished workman, who made and put together almost every part of the instrument above named under my own supervision. Without this very great advantage I never could have gone through with the work even to this extent.

As regards the ultimate success of this instrument, from what we have seen thus far in its application I think I can very confidently recommend it to the general practitioner as well as the surgeon, as likely to give satisfaction in all cases where a speculum requires to be used.

That a diminution of the size of the instrument shown here will have to be made to suit the majority of cases I am convinced. This is an extra large size. A medium size, I think, will cover four-fifths of all cases; one of smaller size, and a larger one, such as here shown, covering the other fifth of the cases. In this last class we included such cases as the one above detailed, and all cases with shortening of the vagina resulting from injury of its walls or otherwise. As soon as we can determine properly the alterations necessary to be made in the proportions of this instrument, in order to reach the other two sizes, we will have them made.

The instrument, when completed in steel and electro-plated, as designed, will not, I am satisfied, exceed the weight of this our original pattern, which is only eight ounces, being two ounces less than the ordinary lever speculum.

QUARTERLY RECORD OF OPHTHALMIC AND AURAL SURGERY.

COLLATED BY W. S. MITCHELL, M. D., PROF. OF ANATOMY AND OPHTHALMIC MEDICINE AND SURGERY IN NEW ORLEANS SCHOOL OF MEDICINE.

Notes of Various Cases: From MR. HUTCHINSON'S Clinique—Royal London Ophthalmic Hospital.

1.—*Keratitis from Inherited Syphilis without Peculiarities of Physiogonomy.*—Amongst the cases at present attending as outpatients under Mr. Hutchinson's care, are several instructive cases of interstitial keratitis which deviate somewhat from the general rule. One of these is that of a rather handsome young woman, of good complexion and good features, who applied with

keratitis of the syphilitic form in the left eye. The teeth were characteristically malformed.

Mr. Hutchinson gave a confident diagnosis that the disease was syphilitic, and the mother of the patient having been requested to attend, a clear history was obtained. As the young woman was in vigorous health, treatment by the bi-chloride was adopted, and with very satisfactory results. The disease increased for the first fortnight, and the other eye became irritable, but after this both rapidly improved, and now, at the end of two months, both corneæ are almost perfectly clear.

The attention of the students has frequently been asked to this case as a proof that we must not always expect hereditary syphilis to betray itself in the physiognomy. The girl would certainly be picked out as one of the best-looking amongst a room-ful of patients.

2.—*Keratitis from Inherited Syphilis, without Peculiarities of Physiognomy or Teeth.*—In another case a girl aged seven, was brought with keratitis, which Mr. Hutchinson diagnosed as of the interstitial or syphilitic form. Her physiognomy was, however, not peculiar, and her teeth were of good size and form. Her mother gave the history of suspicious symptoms in infancy, and stated that the child was under the care of Dr. Dobdell for them. On application to him, Dr. Dobdell was courteous enough to send a report of the child's illness, fully confirming the diagnosis. He had attended both the mother and child for syphilis. This conclusive testimony was very valuable in the absence of the usual physiognomical peculiarities. We may perhaps go further, and suggest that the careful treatment (by mercury) which the child had in infancy has perhaps been the means of much diminishing the severity of the disease, and thus preventing the production of the characteristic physiognomy and teeth.

In this case, as well as in the preceding, the attack of keratitis has been less severe than usual, and in each it has fallen chiefly on only one eye. In the latter case the treatment has been by the iodide of potassium, two grains three times daily.

3.—*Extensive Changes from Choroiditis Disseminata without any subjective symptoms.*

A very instructive instance in proof that very extensive disease of the eye may be present, without its subject being aware of it, occurred a few weeks ago. A man of twenty-five applied for a scratch of the cornea. Slight iritis followed, and Mr. Hutchinson several times drew attention to the peculiarity of iritis resulting from a very superficial injury. The iritis disappeared under treatment, and the pupil could now be dilated by atropine to a mere rim. So entirely had the adhesions disappeared that it became of interest to examine if any uveal pigment had been left on the lens, and for this purpose he was taken to the ophthalmoscope room. It was now unexpectedly discovered that in both eyes were very extensive changes from choroiditis disseminata. Large

patches of choroid had been absorbed, leaving pigment accumulations and exposed sclerotic, and still larger patches were seen where only the choroidal epithelium was removed. The patches were scattered irregularly over the fundus in each eye, and some of them were very near to the yellow spot, without, however, quite involving it. The man gave no history of any attack of eye disease. He would not admit the existence of any single subjective symptom, and insisted that he could see as well as any one. On examination, it was found that he could read "brilliant," and in the distance could see almost perfectly. Although all the choroidal changes were of old standing, yet their presence might probably be considered to explain to some extent the occurrence of iritis from so slight a cause, denoting as they did a constitutional predisposition (syphilis ?)—*London Med. Times and Gaz.*

Recent Contributions to the Anatomy of the Tympanum; By J. Orne Green, M. D. Communicated for the Boston Medical and Surgical Journal.

The dermoid layer of the tympanum is merely a continuation of the dermoid covering of the external meatus, which, at the external ear, contains all the elements of the cutis in full quantity, but gradually loses some of them as it proceeds inwards, and possesses the others in diminished supply, so that the layer becomes thinner and thinner as we examine from the outer ear towards the central point of the tympanum; the thinnest part is that a short distance from the hammer. Around the hammer itself this layer apparently becomes thicker; but, as we shall see, this thickening is due to a collection of fibres separate from the dermoid layer, which descend in considerable quantity from the upper wall of the meatus.

By carefully preparing a tympanum under water, beginning from the inside and gradually removing the different layers till nothing but the dermoid layer remains on the glass, it is found that a band of connective tissue exists, which begins on the upper periphery with a basis of $1\frac{1}{2}'''$-$2'''$, and extends downwards on each side of the hammer till it reaches its lower end; that then the fibres separate, and some pass centrifugally into the dermoid layer, while the greater part pass round the umbo and unite with the fibres on the opposite side. This band of fibres contains the vessels and nerves supplying the tympanum, and also serves to bind a formation of cartilage which has heretofore escaped observation.

The hammer, throughout that part which is united to the tympanum, is imbedded in that membrane only to one-third of its width, while the other two-thirds are covered merely with the mucous membrane; this membrane apparently serving only to

retain the hammer in its position. If, now, the hammer is removed by cutting through the mucous membrane along the neck and handle and then drawing the membrana tympani away, it is found, as a rule, that there is but a occasional and slight union between the hammer and membrane, which allows the two to be easily separated as far as the umbo; here, however, the union is found to be quite firm. On a tympanum so prepared can be discerned, either with the naked eye or by the touch, that exactly on that part corresponding to the small process and the handle, the membrane is more rigid than in its other parts and must contain other tissue elements. By a magnifying glass, it is seen that here is a cartilaginous formation having a distinct form, namely, that of a deep gutter closed at the upper end, and so forming as it were, a cartilaginous cap for the small process of the hammer, while the other end is open, becoming more and more flattenad, and loses itself gradully in the substance of the membrane propria. The whole form of this cartilaginous formation corresponds with the hammer, and individual peculiarities of the latter are also to be found in the cartilage; for instance, where the small process is but slightly developed the cartilaginous cap is found to be shallow, and *vice versâ*. Sometimes, but not always, there is the appearance as if the upper part of this cartilage, corresponding to the small process, was connected with the lower part, corresponding to the handle, by connective tissue. The best view of this cartilage is to obtain in transverse sections, which show that the cartilage is thickest and most perfect, i. e., composed of the largest and finest cartilage cells, at the upper end, while at the lower end the cells are smaller and imbedded in a great measure in the fibres of the membrana propria. By separating these fibres, the cartilage cells can be found nearly one millimetre deeper than the deepest point reached by the handle of the hammer. Dr. Gruber has found this formation not only in human tympana, but also in those of the horse, cow, sheep, pig, fox, hare, rabbit, dog, mouse, cat and rat.

On the anterior surface, the cartilage is lined with a thin layer of connective tissure, between which and the hammer a certain amount of synovial fluid is found. The space in which this fluid is contained begins on the rough part of the neck of the hammer (the spina) and continues some distance down the handle; it is usually most conspicuous on the anterior surface. In those cases where the hammer is separated from the cartilage with difficulty, which must be considered a pathological condition, this layer of connective tissue is even then found between them, showing that the two are never united directly together. The hammer has then the following position; above, attached by ligament to the roof of the tympanic cavity, and below, at the umbo, firmly to the tympanum, while the small process and the outer thirds of the surfaces of the handle lie free in a synovial fluid. Here we have all that is necessary to allow

a rotary movement of the hammer in the direction of its long axis; and instead of the union of the hammer and tympanum being a rigid one, as was supposed, it is possible for certain parts of the hammer to move without the tympanum itself taking any part in such movement.

The tympanic cartilage is attached to the tympanum in a very complex way—by the band of connective tissue belonging to the dermoid layer which descends from the upper wall of the meatus, as previously described; secondly, by the fibres of the membrana propria which are inserted into it; and thirdly, by connective tissue belonging to the cartilage itself, which descends from the upper part of the annulus tendinosus. The deeper fibres of the dermoid layer connect the cartilage with the tympanum, while the side fibres pass partly towards the periphery and partly unite the free edges of the cartilage with the surfaces of the hammer. The fibres from the annulus tendinosus run from the posterior upper end of the tympanic ring obliquely forwards and downwards, and are in this direction more tensely stretched; as soon as they reach the lower end of the neck of the hammer, they turn in circular bands around the cap-shaped end of the cartilage, which they partially cover outwardly, so that while they serve above for a uniting band between the hammer and annulus tendinosus, they also serve to bind the hammer to the cartilage around the base of the small process. Some slight bands of these fibres also pass towards the anterior and posterior segments of the tympanum, so that in the neighborhood of the hammer a ligamentous apparatus is formed which serves to fasten the cartilage in the tympanum, to unite it with the hammer, to strengthen the tympanum and to conduct the vessels and nerves.

The radial fibres of the membrana propria are inserted, not as usually described, on the hammer itself, but on the tympanic cartilage: viz., the fibres of the lower half of the tympanum on the lower part of the cartilage, and those of the upper half on the upper part, except that in the extreme upper portion of the tympanum, on a spot more than a millimetre in diameter, the radial fibres are greatly diminished in quantity or entirely wanting, which explains why, after applying the air-douche in some cases, small, glistening projections are seen; for the tissue, being here thinner, is blown outwards, and small bladders of air are formed. These circular fibres, which in their course reach the cartilage, are inserted into it in the same way as the radial ones, only a very few of them being inserted on the hammer itself. A small number, however, are inserted neither into the cartilage nor the hammer, but seem to run, as von Troltsch says, over the small process and before the neck.

While, heretofore, the membrana propria has been described as consisting of radial and circular fibres only, we find now that a third course of fibres are described, which, rising from the upper segment of the annulus tendinosus, run obliquely downwards to-

wards the median line and on both sides of the tympanic cartilage, and so cross obliquely the course of both the radial and circular layers. They are to be found best developed in the posterior segment of the tympanum, and lie, as can be seen by careful dissection, outside of the radial and circular layers, and next the dermoid covering.

Still another formation in the tympanum is described by Dr. Gruber, which he names the ramifying fibres. By carefully removing the whole dermoid layer and the epithelium of the mucous membrane from the tympanum, these can be seen by a very slight magnifying power, and from their form and position they apparently play an important part in the physiology of the tympanum. This hitherto undescribed tissue consists of bands of fibres varying in size and shape, scattered irregularly over the whole surface of the membrana propria, but always to be found in the greatest quantity on the posterior segment. They take their origin from several small masses of fibres like the roots of a tree; these soon run together, form a band of variable width and length, and soon separate again into a number of smaller bands, which are gradually lost in or assimilated with the fibres of the membrana propria. The peripheral ends of these bands are situated on the inner surface of the membrana propria, and only covered by the mucous membrane, while, as they run towards the centre, they pass outward, and are to be seen between the circular and radial layers. These fibres are of the same nature as those of the membrana propria, namely, connective tissue, and probably serve to help the tympanum return to its normal position when too much stretched, either by the pressure of air or by muscular action. All these different layers of the tympanum are connected together by a delicate connective tissue.

The tensor tympani muscle, instead of being inserted, as von Troltsch says, on the inner border and neck of the hammer, inserts part of its fibres on the inner border, while the larger part are inserted on the upper portion of the handle, directly under the chorda tympani; and what Toynbee describes as the tensor tympani ligament is nothing more than the mucous membrane which covers all the parts within the tympanic cavity, and which, coming from the processus cochleariformis, surrounds the tensor tympani muscle like a sheath, and from it is distributed over the inner surface of the tympanum.

From what has been said of the insertion of the hammer in the tympanum, of the insertion of the ligament of the tensor tympani muscle in the hammer, and from the direction of the muscle itself, it is evident that during contraction not only will the tympanum be drawn inwards and stretched, but the hammer will rotate on its long axis, and the posterior surface of the handle will be turned outwards. An inspection of the articulating surface of the head of the hammer confirms this view, for it will be found that this describes a spiral from above and outwards, downwards, and inwards, "running obliquely from the median

line (externally) downwards over the posterior surface of the head, and forming a part of the median surface (internally) with its lower end." It is very probable that if such a movement of the hammer was from any cause excessive, the incus, and finally the stapes, would be moved, and consequently an influence exerted on the fluid contents of the labyrinth.

Gruber's experiment shows this movement very satisfactorily; having exposed the tympanum externally, and the musculus tensor tympani in its bony canal, so that it can be seized with forceps, the tympanum and small bones being left in their normal position, a needle with a straight bristle attached is drilled into the small process perpendicularly to the plane of the tympanum. Now by drawing on the muscle, it is seen that the end of the bristle, which must describe the same movement as the small process in an exaggerated degree, describes the arc of the circle from backwards, outwards and upwards in a direction forwards, downwards and inwards, showing that the hammer not only is drawn inwards by the contraction of the muscle, but also turns on its longitudinal axis. The pathological appearances also point to the same result, as in secondary shortening of the muscle (Politzer) often more of the posterior surface of the handle than of the outer border of the hammer is to be seen in examination, and the outer border is drawn towards the anterior wall of the meatus. The two segments of the tympanum are differently affected by this contraction of the muscle, the posterior becoming nearly a plane surface, while the anterior is relaxed and becomes concave.

Several of the new formations here described are to be seen in the examination of patients, and it is also now well established that other anatomical parts previously considered invisible are occasionally to be seen, the knowledge of which is necessary to explain occasional appearances on the tympanum. The oblique fibres from the outer meatus are often to be seen in examination of patients with catarrh; for the tympanum being drawn inwards, and the hammer turning on its long axis, this band of fibres is stretched, and becomes visible as a yellowish white line coming from the posterior upper wall and passing forwards and downwards towards the small process of the hammer. The fibres which serve to fasten the tympanic cartilage are often visible as yellowish white lines running downwards and backwards nearly to the middle of the tympanum; these were formerly considered to be the outer edges of the different parts of the hammer. It is not infrequent to see the edges of the niche of the fenestra rotunda as a grayish spot on the tympanum, and if that membrane is very transparent, the descending process of the incus appears as a white line behind the handle. Occasionally the union of the incus with the head of the stapes is to be seen, and very seldom indeed one side of the stapes. The anterior and posterior folds of the tympanum, first described by Dr. Gruber as an important diagnostic point in the drawing inwards of the membrane in

catarrh, run forwards and backwards from the small process of the hammer, and become more developed the greater the prominence of the small process. They are formed in a perfectly natural way by the small process pressing the expanded membrane before it, as would be the case in pressing at any one point on a tissue tensely stretched. If the small process is very prominent, a superior fold also is found, and it is by no means unusual to see all three on the same tympanum.

Only by an exact knowledge of the minute anatomy can the appearances found in disease be explained, and Dr. Gruber, in these recent "studies," has already cleared away much that was misty in aural surgery.—*Boston Medical and Surgical Journal.*

Inspissated Cerumen : By D. B. St. John Roosa, M. D., Prof. in the University Medical College.

It is intended, in the papers which are proposed under the above title, to present some of the practical results of an experience in ear diseases, reaching over quite a large number of cases, in such a way that they may be useful as a guide to those who see comparatively little of the diseases of this organ.

Among the laity, and even in the profession, hardening of the ear-wax is regarded as quite a common and harmless affection. All forms of deafness are ascribed to this cause, and the first treatment that many ear patients receive, is a vigorous syringing to see "if the wax be not hardened," and this often without any preliminary examination. Impacted cerumen is indeed quite a common occurrence, but it is by no means as simple an affair as has been generally supposed. I do not mean by this, that it is anything more, as a general thing, than a local affection, but as such, it may produce results very detrimental to the function of hearing. It hardly seems to occur more frequently in persons with a soft skin than others, as has been suggested by some authors, for among the patients whom I have seen, careful examination has failed to detect any such origin. Persons with a dry and harsh skin have as often come to me with impacted cerumen, as the opposite class. A frequent cause is the too careful washing of the auditory canals with soap and water, which some over-clean persons delight in doing. This rinsing out the canal plugs the natural yellow wax, which is on its way out, down to the bottom of the canal, and being continued morning after morning, at last fills up the ear, and when the drum is once fairly covered, and pressed upon, and *not till then*, deafness results. It is somewhat remarkable how long persons may have the ears plugged up with hard wax without being aware of it. On examining persons who present themselves with impacted wax, only causing deafness on one side, we will nearly always find the same condition

of things as to the wax, in the other ear. If the cerumen be very black and hard, and if it comes out in one large plug, we may conclude that it has been there for years. I recall two cases in which, from definite accounts, we could safely conclude that five years had elapsed since the deafness occurred. In both of these cases, the hearing became normal after the wax was removed. Impacted wax sometimes causes serious inflammation of the canal and drum. In one case, that of a young lady, suppuration of the drum resulted from hardened wax pressing upon it, and the wax was removed spontaneously like a shot from a pistol, and, as was stated, with almost as loud a report. This evacuation was preceded by the most intense pain. The removal of a plug three-fourths of an inch long from the other auditory canal, and which was wedged in very tightly, saved the patient from the inflammation which was so troublesome on the other side. In another case, still under treatment, what was supposed to be on first examination a plain case of inspissated cerumen, was found, after removal of the wax, to be one of inflammation of the integument which lines the canal. The removal of the hardened wax was, as it were, only the removal of a huge scab from an ulcerating surface. I have seen other cases like this.

Inspissated cerumen causes many symptoms. The prominent ones are:

1.—Sudden deafness. 2.—Tinnitus aurium. 3. Vertigo. 4.—Earache.

Of course, an examination is the only method of clearing up the diagnosis. This examination should be undertaken with the ear mirror, (or otoscope, properly called,) and not with the syringe. In other words, it should be ocular, and not tactile. The trouble can hardly be confounded with any other affection. Wax which presses upon the drum is almost always black, not yellow, and nearly fills the canal. No decided prognosis can be given from seeing the wax, as to whether its removal will restore the hearing. Hardened cerumen very often forms over a perforated or ulcerated membrana tympani, and is then of course only a small part of the disease. It often results, also, from the dropping of oils into the ear for some therapeutical end seldom attained. The original disease for which the oils were used was then probably an affection of the cavity of the tympanum.

The habit of examining the ear in all cases with head symptoms, will sometimes assist materially in clearing up a diagnosis. I once cured a man from the effects of a supposed sun-stroke, by removing inspissated cerumen, who had been treated for two months in a hospital for cerebral disease.

Patients who have once had impacted wax, are apt to suffer again from the same cause, at least I have seen quite a large proportion of cases in persons who have been affected in the same way before. Such may be advised to have their ears syringed with a solution of bicarbonate of soda and water, about once in two months. The removal of the hardened mass is very often a

tedious affair. I once spent an hour a day for a week in removing a mass from the ear of a lady patient. In the interim, the best solvents, such as soda, were used. With previous soaking the canal with a warm solution of soda, say a drachm to the half pint, ten minutes will generally suffice to remove the mass. A good india rubber syringe, holding at least four ounces, should be used, and the auditory canal well straightened by holding up the auricle with the left hand, at the same time syringing with the right. The glass syringes are of no use. The stream sent in should be vigorous but steady, and care taken not to eject it with such force as to cause pain or dizziness. There should never be any pain caused in syringing the ear for any purpose. Where pain is produced, syringing will do harm. A thin bowl is held under the ear by the patient. No assistant is needed. No towel need be placed on the patient's neck, for, with careful manipulation, no water will be spilled.

The ear may contain an astonishingly great quantity of hardened ear wax, and an examination should be made very frequently during the course of the syringing to determine when it is all removed. No after-treatment is necessary. If, however, sounds are oppressive, as they often are, after the removal of large quantities of ear wax, a little cotton may be worn in the meatus for a day or two. The membrana tympani always appears reddened immediately after the removal of the cerumen, and then dull. It will be some days before it regains its normal translucency. If the hearing be not improved immediately on removing the wax, the middle ear should be inflated by Politzer's method. The drum is sometimes sunken in temporarily, and one or two passages of air through the Eustachian tube will restore its position as well as the hearing.

Professor Gross recommends the use of a pick for the removal of impacted wax. This does very well as an aid where the wax is very hard. If it be used, the surgeon should have a mirror on his forehead, and never put the pick in the canal, unless he can see just what he is doing. Painful and even destructive inflammation may be caused by this mining out process. The general practitioner, to whom ear cases come in only a small proportion in his daily rounds, had much better rely on the use of a syringe and warm water where possible, having previously moistened the canal with a warmed solution of soda, zinc-sulph, or with glycerine and water, sweet oil, etc. Inspissated cerumen rarely occurs in children. I suppose there is no difference in the liability of the sexes, and I know of no well-established proximate cause, except the one given in the beginning of this article, *i. e.*, packing the meatus by the frequent pouring in of water. Yet, we might say that it is common for hardened wax to collect about a foreign body in the ear, such as a raisin, introduced originally to relieve earache, a cherrypit, etc., but here the inspissated cerumen is only a concomitant. It is hardly to be credited, although formerly generally believed, that a diathesis has anything to do with it, or

that there is any disease of the ceruminous glands. The cause is probably in one way or another mechanical—that is, there is some interference with the normal and daily removal of the secretion.—*Medical Record.—Chicago Medical Examiner.*

Reproduction of the Crystalline Lens, after the Operation for Cataract.

I have observed many times during sixteen years, and particularly in the last six or eight years of my practice, that persons on whom has been performed the operation for cataract, are necessitated, after a few months, to change their glasses for those of a feebler power. They become tired of using these lunettes, which until now had been so useful, and prefer to employ the naked eye, notwithstanding their vision was considerably confused. Weaker glasses, ranging between sevens and twelves, should replace the number fives which has been first employed for seeing at a distance, and number four, five, and even six, for reading.

This fact, which is relatively an exception, appears to me to be referable to the reproduction of the crystalline lens, in regard to which researches were made in 1824, by Drs. Coeteau and Leroy D'Etiolles, the experiments were made on the hare, the cat, and the dog, and it is impossible to entertain the doubt that the crystalline cannot be reproduced between the sixth week and the sixth month afterwards. M. Haumann has studied this question by means of experiments and observations, and he has discovered that the capsule secretes a new crystalline, which remains incomplete, and does not form in reality until after several months, especially in young persons. Among old people the secreted substance is still more incomplete. The author would ask if this secretion is nothing more than a temporary result, and if it would not be re-absorbed after a long time; but if one should judge by the permanency of the shrinking of the focus, which I have observed in man, and especially as shown in the researches of M. Textor, in which the crystalline has been found reproduced after five, seven, and thirteen years, we cannot entertain the doubt as to the definite reproduction, however incomplete, of the lentil, after the operation for cataract.

M Textor terminates his *brochure* with these interesting remarks:

1. After having raised or displaced the crystalline, there forms, under certain conditions, a new crystalline, more or less normal.
2. The mould of the crystalline is the lenticular capsule; a diseased capsule cannot reproduce a healthy transparent crystalline.
3. The capsule being extracted or depressed, regeneration of the crystalline is no longer possible.
4. The crystalline material is readily separated from the capsule;

whence it results that a second regeneration after a second operation, does not appear impossible; but it is not further proved by experiment.

5. The regenerated crystalline has the same clearness and the same transparency as the normal crystalline, but its consistency is somewhat less; it does not appear to blur the vision by false refraction.—*Western Jour. Med.—Detroit Review of Medicine and Pharmacy.*

QUARTERLY RECORD OF PRACTICAL MEDICINE.

COLLATED BY J. DICKSON BRUNS, M. D., PROF. PHYSIOLOGY AND PATHOLOGY, NEW ORLEANS SCHOOL OF MEDICINE.

On the Treatment of Malarial Fevers by the Subcutaneous use of the Sulphate of Quinia: By E. C. SEGUIN, M. D., late Resident Physician New York Hospital.

QUINIA seems first to have been subcutaneously employed by Dr. Chasseaud of Smyrna, who in 1862 reported one hundred and fifty cases of malarial fever thus successfully treated. He claimed greater rapidity of action and economy in the use of a costly medicament as the advantages of the new plan. About the same time a similar attempt was made in France by Goudas, who published fifteen cases, and Moore used Chasseaud's method in India. During the winter of 1864-5, Dr. Maury treated some twenty-five cases of intermittent fever in the rebel hospital at Greenville, Alabama. In 1865 Mr. Craith of Smyrna continued to give quinia hypodermically with flattering and constant success, while Davigne in France, Eulenberg and Lorent in Germany, were making some few successful experiments.

This method was first tried in the New York Hospital by Dr. G. M. Smith, the attending physician then on duty, in a case of congestive remittent fever, during September, 1866. It has since been applied to all varieties of malarial fever, and may now be said to be a part of the regular practice of the house.

The solution of sulphate of quinia used in the hospital is made according to the following formula:

Take of subsulphate of quinia, sixty grains; dilute sulphuric acid, forty minims; distilled water, one fluid-ounce. Mix. Make a solution and filter with the greatest care.

Thirty-five minims of this are equal to four grains of quinia.

Or the solution may be varied by the addition of four or six grains of sulphate of morphia, which combination renders the injection less painful.

[The mode of giving an injection of this solution by means of

an ordinary hypodermic syringe, has been fully detailed in the August number of the Journal, p. 403.]

At first less acid was used for fear of causing irritation, but it was soon discovered that the real cause of abscess were the undissolved crystals of quinia and the particles of dust which imperfect closing of the bottle allowed to drop into the fluid. It was also found that an excess of acid removed the most fertile source of danger, while it but slightly increased the pain of administration. In reality, there is but little more acid in the above formula than in Moore's, for he used twelve drops of the *pure* acid to dissolve thirty grains of quinia in a half ounce of water.

Dr. Maury, of Alabama, employed a solution, sixty minims of which contained eight grains of the salt.

From the fact of sailors being received into the institution as patients, malarial fevers form a large part of the practice of the house. These cases come in mostly from the various ports of our own Atlantic and Gulf coasts, and from Cuba, the West Indies, Mexico, and Central America. In many of these ports (Aspinwall, Mobile, and Washington being the worst) the poison is most intense, and produces not only severe attacks of fever proper, but also deep and long-continued cachexia. Congestive cases come in during the summer and autumn from the three above-named places, and are of a very fatal character. These peculiarities of the fever necessi ate the exhibition of much larger doses of the anti-periodic medicine than are usual in No thern practice. Besides the amount of quinia required for the breaking of the attack, the prolonged use of small doses combined with iron are resorted to, in order to correct the cachexia. The general treatment of these cases has been as follows for the past few years:

A simple intermittent of the tertian type was cut short by the giving of three doses of five grains of quinia two hours apart, and so calculated that the same interval of time should intervene between the last dose and the expected chill.

A quotidian usually required four such doses given in a similar manner. In both forms, subsequently to the stoppage of chills, some six grains of quinia were given daily, together with some form of iron; on the seventh, fourteenth, and twenty-first days (counting from date of last paroxysm) five grains extra were exhibited about two or three hours previous to the chill time.

Simple remittent fever was treated by means of two grain doses of quinia given every two hours until the headache became very severe or the fever ceased. In many cases the medicine could be continued for twenty-four or forty-eight hours, when the force of the fever being broken, the doses were gradually reduced until in convalescence two grains three times a day combined with a chalybeate were ordered, and continued up to complete recovery. Severe cases, simple, or tending to the congestive form, were treated by hourly doses of two or five grains pushed until cinchonism became apparent. Of course, it is understood that this account only relates to the quinia, its

mode of administration, and quantity employed, making no mention of the numerous other means resorted to, such as purgatives, local applications, stimulants, and food.

When it was decided to use the hypodermic method it became necessary to work out rules for giving the remedy, both as to time and quantity, no explicit directions being found in any of the published accounts at hand. One single statement there was to serve as guide, that one grain of quinia under the skin was equivalent to five or six by the mouth (Moore). In the course of a few experiments it was discovered that this was far too high an estimate, at any rate for the class of cases coming from the South. It was observed that four grains of the medicine were needed to break an attack of tertian fever, and that fully eight were required for a quotidian. In congestive cases, of course, the amount injected varied according to the severity of the attack, and it was always given upon the estimate that one grain subcutaneously equalled four grains by the mouth. By following the experience gained while giving mouth-doses, the injections were at the first given two hours before the time of the expected paroxysm, and this was found so successful that the rule is now invariably followed. Where two injections were required, if there was time to spare, four grains were given four hours, and the other dose two hours before the expected chill. If the time was too short, both injections were given at once.—*New York Medical Journal.*

On the External Use of Digitalis in the Supression of Urine: By J. D. Brown, F. R. C. S. Eng. (Exam).

Case 1.—Mr. H., a healthy young farmer, aged twenty-three was suddenly seized with severe pain in the bowels and back. I saw him at the end of seven days. Bold treatment had been enforced by Mr. John Thomas, of Narberth, such as bleeding, sweating, blistering, warm baths, but in vain. A catheter was passed on my arrival, and about a teaspoonful of urine was removed, highly albuminous. His condition was nearly hopeless when we met the next day. Vomiting and nausea prevailed, with heavy dull pains, and he was evidently sinking. It was now the ninth day, when we agreed to try the effects of digitalis. It was useless to administer it by mouth, and there was no time to lose. It was the month of May, and digitalis was plentiful. A poultice of leaves, bruised and warmed in boiling water, was applied at 12 M. We left, saying that if no urine came away by six in the evening, a fresh poultice was to be applied. We had no sort of hope of the patient's recovery, and communicated our opinion to the friends on leaving. By six P. M., no urine. A fresh poultice was applied to the abdomen. About ten that night urine passed. At four A.

M. I was sent for, and Mr. Thomas, who lived nearest, got to the house by six or seven. The messenger, to my utter surprise, said that they could not stop him making water. He had then made eight ordinary-sized chamber vessels full, and was still making it when he left. We met at ten A. M., but he never rallied; the drain was too much. Digitalis had been badly handled by us. We left no guide, no rule, and too much was absorbed. It did well, but went beyond its work. He lived till night.

Case 2.—A. R., servant, aged forty-five, subject of renal calculus and gout, was suddenly seized with suppression, but had no great amount of pain beyond what he usually suffered in passing small stones. I saw him on the fourth day, in consultation. All the usual remedies had been tried in vain. It was winter, and digitalis was given, but not in bold and sufficient doses at first. At the end of the sixth day it was boldly given in large doses, and a poultice applied on the seventh day; urine passed freely, and all went well. He still lives in his usual health.

Case 3.—Mrs. L., age fifty, subject to renal calculus. Suppression came on with vomiting and the usual symptoms. At the end of four days, every other plan having been tried, I recommended the poultice. It was winter, but leaves were obtained and applied as usual. I returned in six hours, when two chamber vessels full of urine had been passed. All the symptoms gave way, and for two days she continued to do well. Again suppression came on; she was neglected by her attendant, and the poultice was not again applied. She sank at the end of the twelfth day, no water being passed except for the three days when digitalis was in the field.

Case 4.—Mr. G., a gentleman about forty, subject to renal calculus, having passed one years ago, in good health up to Friday morning, when he was suddenly seized whilst dressing with intense agony in the right renal region. His medical attendant, Dr. Rowlands, of Carmarthen, saw him immediately, subdued the pains, but, to his surprise and vexation, no urine passed. A catheter was passed; there was no urine in the bladder. The usual treatment (baths, leeches, and opium) was actively employed without avail. Dr. Lewis, of Carmarthen, was then called, who persisted, in conjunction with Dr. Rowlands, with the remedies. On Monday, I saw him with Dr. Lewis. I told him of my success with digitalis; he was surprised, but did not like to undertake its management unless in concert with Dr. Rowlands, who was then out of town. We agreed to give it in one-grain doses every four hours until Tuesday morning, when we again met. We then agreed to apply the poultice. It was May, and we procured plenty of fresh leaves. Dr. Rowlands and myself made and applied it. He undertook to watch the pulse, which we took for our guide. It was 109 at 11.30: catheter passed no urine; few drops of blood; poultice applied over abdomen; in ninety minutes, pulse seventy-five; poultice taken off. A call for the chamber-vessel; a good stream of water; in twenty-two hours, seventy-five

ounces were passed. Specific gravity 1.15. Acid slightly albumenous, a little blood, and casts. Improvement kept pace. Friday: Symptoms of stone again, which gave way to the usual treatment. Saturday: Plenty of urine; recovery complete.

Case 5.—Mr. R., aged fifty-four, subject of renal calculus, was suddenly seized with symptoms of renal calculi passing off in December, 1867. Mr. Hicks, of St. David's, and Mr. Howell saw him, and used every available means that skill and practice could command for two days, but in vain. Mr. G., of Carmarthen, the subject of the preceding case, being in the neighborhood, hastened to the house, told the Doctor of his cure, and begged them to try it immediately and to send for me. Fresh leaves were collected, and a poultice applied, but having no guide nor experience in its use, it was taken off too soon. I arrived at four A. M. Being sixteen miles distant, much time was lost. This was the third day. A catheter was passed, to satisfy ourselves as to state of the bladder. No urine. I had brought some dried leaves and tincture with me. A poultice was made of ℥ss of tincture, with fresh and dried leaves; poultice applied at five A. M.; pulse about eighty. At 8.30 A. M., pulse reduced about fifteen, and about ten ounces of pale, clear, slightly albuminous urine came off. A fresh poultice applied at ten, and I left, with directions to take it off when the pulse came down to sixty. Plenty of urine continued to be secreted, and from that time he has continued to improve. Urine is now slightly albuminous and alkaline, in spite of our remedies. This gentleman was much out of health, and had been for two years the subject of renal calculi, nausea, and dyspepsia, but he is much better, and improving under phosphoric acid and iron.

Case 6.—Mrs.——, aged about forty, was suddenly seized with suppression of urine. In spite of every remedy, to the fourth day the suppression continued. Severe symptoms were now developed, and a tendency to stupor was amongst them, pulse indicating mischief. It was now decided that they should try the digitalis plan. One ounce of the tincture was mixed with a warm linseed poultice, and kept on overnight. The next morning a large quantity of urine passed. The poultice was kept on the abdomen all next day; urine was plentifully secreted; and from that time she improved and got well.

There may be a difficulty in obtaining leaves collected before seeding time, which appears to me to be the period most vigor, judging from the fact that Nature concentrates her powers for the multiplication of species, and which at seeding time would pass into the young, leaving all other parts more or less exhausted. I believe from experience the winter leaf is very deficient in power. The tincture, mixed with linseed meal, succeeded in Messrs. Rowe and Phillips's case (Case 6); the fresh powder or dried leaves would be equally efficient. The rules of management must depend on the pulse. I have seen no good results till the pulse fell in number; it matters not from what figure; fall it must before

any change occurs. In Mr. G.'s case it fell from one hundred and nine to seventy in ninety minutes; in Mr. R.'s, from eighty to sixty-five in three hours and a half. I would strongly advise sixty as a standard from a high number; forty or fifty from a lower figure—say from eighty. Judging from the effects on the circulation, we cannot lose sight of the fact that the arrest of secretion depends on capillary congestion, which in turn might, by pressure, paralyze the nerves. The fact, however, remains that we compel the kidney to resume its functions by diminishing the force of the circulation, lessening the quantity of blood by allowing a much longer interval between each new arrival. Strange, too, it is that in four cases the attack commenced suddenly like a fit of stone, and, in reality, stone came away in each case.

These cases are reported with the object of calling attention to the effects of digitalis in that dangerous disease, and of inducing the medical world to give it a trial. It is not supposed that it will succeed in all cases of that mysterious disease; but it is clear that it has a powerful influence over the renal secretions, and if carefully watched, taking the pulse as a guide, no mischief need be feared. I own there was a want of caution in the management of my first cases—indeed, it was only used as a hopeless remedy—but as the truth broke upon me, it was clearly seen there was a power in use I had not clearly foreseen, and more skill and caution was enforced in its management.—*Medical Times and Gazette.*

Case of Poisoning by Chloroform: By J. E. TEFFT, M. D., Springfield, Missouri.

THE subject of this report was a young man, aged twenty-eight, of good constitution, though considerably broken down by hard drinking. On the morning of July 17th he arose early, went out and procured two ounces of chloroform, returned to his room and swallowed the whole amount, undiluted. He had been drinking more than usual for several days, and was in very low spirits; and had several times while partially intoxicated, expressed an intention of committing suicide. His family physician, Dr. W. P. Murphy, was summoned, and saw him at seven o'clock, about three-quarters of an hour after the swallowing of the chloroform. I saw him a quarter of an hour later, and found him in a state of profound coma; the eyes fixed and glassy; the pupils of natural size, but insensible to light; the pulse about eighty, full and strong, and the breathing slightly stertorous. Signs of prostration were not apparent until about eight o'clock, (two hours after taking the dose,) when the circulation began gradually to fail; the pulse became more frequent and feeble; the respiration became gasping and stertorous; the extremities became gradually

cool; the pupils dilated and the skin assumed a purple and mottled color. At eleven A. M. the pulse was entirely absent at the wrist; the arms cold to the shoulders; the legs cold to the knees; the breathing very labored, and the whole body wet a with profuse clammy perspiration. From that time gradual signs of reaction commenced. When I saw him, no attempt had been made to evacuate the stomach. No stomach pump was at hand. When Dr. Murphy first saw him he was totally insensible and unable to swallow, and he judged that the stomach would not respond to the influence of an emetic, even could it have been introduced into it. Our treatment consisted of measures to counteract prostration—at first of sinapisms to the epigastrium, dry heat, friction to the extremities, and the administration *per rectum*, of brandy and carbonate of ammonia. Later we employed hot brandy to the extremities, and hot turpentine to the spine, followed by vigorous rubbing. The enemata provoked copious alvine evacuations of dark bilious matter. Reaction was very gradual and feeble. At two P. M., he spoke, and then first began to swallow. Iced mucilage of slippery elm was given him in small quantities, and small lumps of ice to swallow *ad lib.* At six P. M. he complained of a terrible burning pain in the stomach, and begged piteously and incessantly for water, though more than a swallow would induce vomiting. He had passed a quantity of blood mixed with bilious matter from his bowels.

July 18, seven A. M., pulse one hundred and thirty, and weak. He passed a restless night, though he took three one gr. opium pills at intervals. Had not slept more than ten minutes at a time. There was still occasional vomiting. Ice and occasional opium pills were continued.

July 19. Better; pulse one hundred and fifteen and fuller. Rested better and there was no return of the vomiting. Lime water and milk were ordered as nourishment. From this time forward he rapidly improved, and was out in a week. I have seen no reported cases where recovery followed after so large a dose of chloroform as two ounces, *unless the stomach was evacuated of its contents*, as a part of the treatment.

In this case the evidence as to the amount swallowed is complete.—*Western Journal of Medicine.*

A New Treatment of Lead Poisoning: [Translated from the Gazette des Hopitaux.]

In a recent clinical lecture, Prof. Monneret, of the Paris Medical School, gave the following exposition of his peculiar treatment (cold intus and extra) of lead poisoning:

Of all poisonings, that by lead and its salts is the most frequent. It is not my intention to-day to describe the different

phenomena of this intoxication; I shall only say that they are very varied, and come on sometimes slowly, sometimes rapidly. In the first place, the workmen experience vague abdominal pains. Then there are troubles of the sensibility and motility, commencing in feebleness and ending in paralysis. After a certain time the abdominal colics become very violent, and are accompanied by obstinate constipation. This increase in the intensity of the colics is often due to excesses in drinking, which are usually denied by the patients.

Like other physicians, I had always treated these accidents by the free use of evacuants, when, some eight or nine months ago, the idea of a rational treatment suggested itself to me, based upon the supposition that the principal symptoms are due to an affection of the sensitive and motor nerves. This treatment was by the application of cold *intus et extra*. Cold, as is well known, either directly or through the capillaries, has a great influence upon the nervous system, and thus upon the secretions. For this reason I was led to inquire whether the sensibility and secretions of the intestine could not be modified by the action of cold as well as by that of the evacuants which I, in common with others, had always employed. The experiment being a harmless one, I was perfectly justified in making it, and in addition to this, I was confirmed in my ideas by the success of an analogous preventive treatment by hydrotherapy as followed, under my directions, in one of the Clichy workshops. I myself, in my own service, have used this treatment in more than forty cases of work, men showing the early symptoms of lead poisoning, and have found it sovereign.

As soon as I see the patient I order him some iced drink, lemonade for example, occasionally adding a little wine. At the same time I order three cold water injections daily, the water to be retained in the rectum as long as possible. In addition to the cold drinks and injections, the patient is subjected to hydrotherapy morning and evening, and, in some cases, a shower-bath is given at noon. This may be from a hose-pipe, or the ordinary shower-bath, and should never last more than a minute. The action of this douche is not simply refrigerant, but is much more profound and general, stimulating the capillary vessels, which contract, at first, driving back the blood, and then expand, allowing a free return. Sometimes the action of the glands is increased, and a light perspiration covers the body. These effects of hydrotherapy, upon which I hope to dwell longer at another time, are very manifest and very active, and one can understand that the activity of the tissues is renewed. To these different means I add a cold poultice, in order to maintain a constant refrigeration. And, in this connection, let me teach you what I was ignorant of for a long time—that is, the way to make a cold poultice.

Take a large linen or cotton cloth, and on it spread a layer of linseed meal half an inch thick. Upon this place pieces of ice

about the size of a hen's egg; then add another similar layer of meal, and then fold the cloth over so as to inclose the whole. Apply this to the abdomen, and the gradual melting of the ice keeps up the influence of the refrigeration for some three hours. This powerful agent I employ, not only in lead colics, but in all cases in which such action is indicated (such as typhoid fever and peritonitis, for example) and greatly prefer it to the application of ice in bladders, which is sometimes intolerably painful to the patient. By the treatment just described the most speedy results are obtained, and I have seen the disease entirely cured in from two to seven days. In the forty cases observed by me, with two exceptions, all the symptoms of nervous trouble have disappeared as if by my enchantment. The progress toward cure is this: during the first three days the constipation persists, and the injections are returned as they were given; the pain, however, disappears. On the fifth or sixth day the fæcal matter, more or less softened, is rendered natural, and the cure is complete.

For a long time this treatment appeared so simple that I regarded it as purely palliative; to-day, however, I consider it a powerful curative agent, acting upon the capillary and vasomotor systems, and putting in play the natural secretions and excretions, thus aiding the organism to free itself from the poison which has manifested itself by a profound disturbance of the nervous system. It is by resorting to this its activity and molecular action that cold is curative to such an extent.—*Canada Medical Journal.*

Bromide of Potassium in Cases of Mania.

Dr. Thomson, of Dalkeith, states that a patient of his who had suffered from puerperal mania, after her first confinement, recovered under opium; after her second confinement she became *chronically* insane, and recovered only when removed to an asylum for three months. When pregnant for the third time (second month) she became again insane, and recovered in a few days while taking scruple doses of bromide of potassium frequently, sleep being procured only after still fuller doses at bed-time. He adds that he has had lately a case of acute mania in a male where opium did good, but where the bromide seemed to be much more useful. Although the patient improved under the latter medicine, he ultimately succumbed to the disease. He had only in one other case seen such obstinate refusal of food—every effort to get food over being followed by great exhaustion. He recommends the bromide in mania, especially where opium was no longer advisable, or indeed admissible, *i. e.*, where there was a weak circulation and clammy perspiration. He admitted that in this last condition, in certain other diseases, opium was a valuable stimulant, but here it was the *reverse.*

Dr. Keiller had used this drug largely as a calmative, and had found it of very great service in delirium tremens and other cases in which wakefulness was a predominant symptom.

Dr. Charles Bell thought that there was some misunderstanding as to what might be called a large dose of bromide of potassium—the doses varying from five grains to an ounce. Dr. Begbie spoke of half-drachm doses, he believed.

Sir James Simpson said some patients of his would as soon think of giving up their breakfast as their bromide while laboring under fibroid tumors. He agreed that its actions should be watched, for although fifteen years had elapsed since it was known, still there was room for inquiry.

Dr. Burn commended its use in fifteen-grain doses three times a day.—*Proceedings of Edinburgh Obstetrical Society.—American Journal of Insanity.*

[Dr. W. E. Brickell and myself gave a patient suffering from delirium tremens, seven ounces of bromide of potassium in thirty hours, without any sensible effect that I could notice.]—J. D. B.

Specific Character of Tubercle.

Dr. William Budd (London Lancet) states the following as his principal conclusions regarding phthisis and tubercle, the result of much investigation: "1. That tubercle is a true zymotic disease of specific nature, in the same sense as typhoid fever, scarlet fever, typhus, syphilis, etc., etc., are. 2. That, like these diseases, tubercle never originates spontaneously, but is perpetuated solely by the law of continuous succession. 3. That the tuberculous matter itself is (or includes) the specific morbific matter of the disease, and constitutes the material by which phthisis is propagated from one person to another, and disseminated through society. 4. That the deposits of this matter are, therefore, of the nature of an eruption, and bear the same relation to the disease, phthisis, as the 'yellow matter' of typhoid fever, for instance, bears to typhoid fever. 5. That by the destruction of this matter on its issue from the body, by means of proper chemicals, or otherwise—seconded by good sanitary conditions—there is reason to hope that we may, eventually and possibly at no very distant time, rid ourselves entirely of this fatal scourge." The grounds upon which he founds these views are (*a*) The pathology of phthisis, which he thinks shows a specific cell proliferation: (*b*) indisputable instances of personal contagion; (*c*) the geographical distribution of phthisis, the disease extending to newly-discovered peoples in proportion to their intercourse with Europeans, e. g., the South Sea Islanders, the North American Indians, and the African, among whom phthisis was unknown when they were first visited by the whites, though it has since proved extremely

fatal; (*d*) the relation of phthisis to high and low levels is the same as that of ordinary zymotic diseases; (*e*) phthisis prevails extensively in convents, harems, monasteries, penitentiaries, just as do the zymotic diseases.—*Pacific Med. and Surg. Journal.*

Permanganate of Potash in Acute Rheumatism: By C. M. Fenn, M. D., of San Francisco.

An extract from a clinical lecture delivered by Dr. James F. Duncan, at the Adelaide Hospital, some time ago directed my attention to the use, among other remedies, of permanganate of potash in the treatment of rheumatism. I promised myself to make trial of the remedy at the first opportunity. Regarding the so-called chemical theory of the etiology and pathology of rheumatism as, at least, the most plausible, and believing the efficacy of other salts of potash in that disease to be largely due to the measure of oxygen which they contain, it seemed to me that in this salt we possessed a remedy admirably adapted to meet all the indications; and that from the fact of its containing so large a proportion of oxygen (KO, Mn O), and holding the same in such loose affinity, we should be enabled most speedily to promote the transformation of lactic into carbonic acid. In apparent corroboration of this view, I append the record of three cases.

Case 1. Mr. S., salesman, æt. thirty, after some unusual exposure, was prostrated by a severe attack of rheumatism. Upon an examination of his case the new remedy recurred to my mind. But the urgency of his symptoms was such that it seemed preferable to make use of the medicines we had some confidence in rather than fly to others we know not of. He was, therefore, ordered a preparation of potass, iodid., vin. colch. sem., etc., and submitted to a hypodermic injection of morph. acetas. one-fourth of a grain. To modify the exhausting and troublesome perspiration, he used, on the third day, a vinegar bath, with no appreciable relief. On the fourth day, discovering no change in his condition, other than might be ascribed to the daily hypodermic injections, I requested him to suspend the mixture and have half a grain of the permanganate, three times a day. At my next visit, on the following evening, I was surprised at the marked abatement of all the symptoms. The tongue was quite clean, the perspiration no longer excessive nor disagreeable, and the pains were so far relieved as almost to preclude the continuance of an anodyne. His convalescence was now constant and rapid, and on the tenth day from the commencement of the attack he was again at his post.

Case 2. Mrs. G., æt. thirty-five, of full habit and previouly healthy, was attacked during the passage from New York. There

had been a considerable amelioration of the more violent symptoms at the time of her arrival here; but some of the larger joints were still tumid and painful. The permanganate of potash was resorted to, and in a few days she was able to attend to her household duties.

The third case I regarded as, in some sense, a crucial test of the remedy. The patient, a man in middle life, had long been a victim distorted with tophaceous deposits, and the malady was so far incurable. This was varied, however, at intervals of two or three months with acute attacks, which apparently resisted all the usual remedies, and expended their force in from two to three weeks. I had previously attended him in several of these attacks, and found the common remedies, colchicum, acetate of potash in large doses, etc., of but little avail. I now put him on the permanganate, and had the pleasure of seeing him on the street in seven days.

I find the raspberry syrup to be the best menstruum, as it disguises the somewhat nauseous taste of the medicine completely. —*Detroit Review.—Saint Louis Medical Reporter.*

Unusual Effect of Subcutaneous Injection: By F. Woodhouse Braine, F. R. C. S., etc.

Mrs. H. C., aged thirty-five, in good health otherwise, had been kept awake for seventy-two hours by intense neuralgic pain on the left side of head, face, and neck, arising from a carious molar tooth on left side of lower jaw. She was injected with morph. acet. one third grain. At one A. M. on June 28 last, the morphia, dissolved in about four drops of water, was introduced under the skin of the left arm, just over the insertion of the deltoid. No blood appeared at the puncture. In about fifteen seconds tightness of the chest and difficulty in breathing was complained of, and the patient asked to be raised, saying she felt as if she were dying. Her face and lips now became pale; speech became indistinct (not inaudible); pulse irregular; some spasm of the facial muscles took place, and she fell back to all appearance dead. Cold water was freely dashed over face and chest, and, as she was unable to swallow, her tongue was rubbed over with sal volatile, and ammonia applied to her nose, artificial respiration being kept up at the same time. During this time her face was blanched, pulse not to be felt, and respiration not to be perceived. Insensibility continued for about three minutes; then, happily, one or two feeble beats of the pulse, and a shallow inspiration or two, showed returning animation. She then became conscious; pulse feeble, but regular; respiration slow; fingers remained numbed, and both thumbs were firmly drawn into the palms of

the hands. This passed off in about six minutes, leaving her feeling very ill, but free from the neuralgic pain, which did not return. There was no feeling of nausea and no attempt at vomiting during any part of the time.—*Medical Times and Gazette.*

MEDICAL CHEMISTRY, THERAPEUTICS, AND JURISPRUDENCE.

COLLATED BY WM. HUTSON FORD, M. D., PROF. MEDICAL CHEMISTRY, NEW ORLEANS SCHOOL OF MEDICINE.

On the use of Oxygen.

THE value of oxygen as a therapeutic agent is beginning to attract considerable attention among medical men, both here and in Europe. Its adaptation to the wants of the human system in a certain class of diseases cannot be questioned by those who have witnessed its application. An agent like this, which constitutes the vital element in air which supplies the lungs, imparts purity to the blood, and gives, through this, warmth and vigor to the animal body, cannot but claim an important place in therapeutics. In cases of anæmia, chronic dyspepsia, and deficient oxidation of the blood through imperfect action of the lungs, we have witnessed the effects of the systematic inhalation of oxygen with most marked and beneficial results. It is to be regretted that the educated portion of the profession have been so slow in adopting this vital agent in medical practice.

The causes, however, which have conduced to prejudice medical men against the use of oxygen are, first, the difficulty that has heretofore attended its preparation and application; and, second, the extravagant statement of charlatans as to its curative effects.

By the improvement lately introduced for controlling and maintaining a uniform heat of the salts from which oxygen is prepared, the expense and trouble have been so reduced as to bring this gas within the reach of every practising physician; while its purity and the ease and success of administering it, remove much of the obligation heretofore urged against its use.

The fact that mercenary pretenders have monopolized so valuable an agent, should not preclude a fair trial of its merits by those on whose judgment an intelligent public might rely.—*Boston Medical and Surgical Journal.*

Contributions of Toxicology: By P. H. VANDRE WEYDE, M. D. Late Professor of Chemistry and Toxicology in the New York Medical College.

THE inhalation of the vapors of bisulphid of carbon, to which some persons employed in the manufacture of caoutchouc or india rubber (for which this liquid is a solvent,) are exposed, causes in the first place great disturbances in the digestion, various in their nature according to the constitution of the individual; next serious derangement of the nervous system, dulness, loss of memory, and injury to the intellect; afterwards more or less complete paralysis, and finally absolute genital impotence, the testicles become smaller, and the post-mortem of females showed an almost entire obliteration of the ovaries.—*Medical and Surgical Reporter.*

Iodine Inhalation in Diphtheria.

MR. J. Waring Curran (Lancet) extoles the inhalation of iodine in diphtheria, and claims for it the property of arresting the development of the membrane. He thus speaks of its employment:

The formula which I employ for inhalation purposes is the same as that formerly used by Sir Charles Scudamore in pulmonary phthisis—viz: Iodine, iodine of potassium, of each four grains; alcohol, four drachms; water, four ounces. Of this, for each inhalation, commencing, I take a drachm: add to it a pint of vinegar infused with a handful of dried garden sage, place in a common inhaling jar, steadily increasing the quantity of iodine solution until I arrive at half an ounce each inhalation. The circumstances of the case, the age and strength of the patient, and the severity or mildness of the attack, guided me with regard to the number of inhalations, and the time occupied by each. For an average case, occurring in a healthy patient, I would say twelve inhalations at least per diem, with eight to twelve minutes (an interval allowed to rest) for each. The loss of valuable time in country practice, occasionally, will not permit the delay of sending and waiting for an apparatus; accordingly not unfrequently have I been compelled to make my inhalation in the following manner: Having boiled the vinegar and sage, place it in a teapot with a long spout, and when the patient is prepared to inhale, add the iodine, cover the lid of the vessel with a cloth, keep up the temperature by a spirit-lamp placed underneath, and holding the vessel by the handle, allow the patient to inhale through the spout. Laryngeal irritation is in a great measure prevented by the small quantity at first used, through the patient becoming gradually accustomed to it.—*Medical Record.*

Veratrum Album and Veratrum Viride.

M. OULMONT is reported, in the *Union Médicale*, as having compared the veratrum album of Europe with the veratrum viride of this country. The two varieties, he says, differ only in a few botanical and pharmacological characters, and the action of the veratrum album upon the various functions and on divers animals is the same as that of the veratrum viride. The former has, however, a more violent action upon the alimentary canal, where it always leaves traces of active inflammation. The killing power of the veratrum album is twice that of the veratrum viride.

Comparing the physiological action of *veratrine* with that of veratrum viride, M. Oulmont concludes that the alkaloid, which enters, in a notable proportion, into the composition of the veratrum, is not the active principle, and his conclusion is confirmed by an experiment made upon a rabbit with veratrum viride deprived of its veratrine. The phenomena were the same as those produced by the veratrum viride pure and entire.

Muscle Sugar.

IN August, 1861, G. Meissier announced his discovery of a true sugar in muscle. Dr. J. Ranke has reinvestigated the subject and fully confirms Meissier's supposition. The following propositions are considered as established: First, That there exists a true fermentable sugar in muscle. Second, That the amount of this sugar is increased by muscular action, including tetanization caused by strychnine or electricity. Third, That the liver has no effect in causing this increase, for the sugar is proved to arise in the muscle itself, and from the muscular substance.—*Am. Jour. Med. Sciences.*

The Permanganates as Disinfectants.

THE International Society for Succoring the Wounded in War, has recognised the value of Mr. Condy's discovery of the disinfecting properties of the alkaline permanganates, and the great sanitary value of Condy's fluid, proved by the experience of the Prussian army surgeons during the Austro-Prussian campaign, by awarding to the inventor, Mr. Bollman Condy, of Battersea, their honorary medal.

BEEF soup, broths, or jellies, may be preserved from turning sour in the sick room, or elsewhere, by stirring in a few drops of the solution of bi-sulphite of lime. This will not impair their taste in the least.

Ophthalmology in its Relation to Legal Medicine: By M. Fano. (*Gazette des Hôpitaux*, No. 87, 1867.)

A cataract being presented, it is impossible to determine whether it be traumatic or spontaneous?

The answer to this question is far from being an easy one. Many individuals attribute to a blow upon the eye or surrounding parts a cataract which already existed, and the existence of which was first noticed by them at the time they received the injury. The previous circumstance of a blow on the eye is not therefore sufficient to enable one to assert that the cataract is of a traumatic nature.

Traumatic cataracts are produced consecutively to wounds of the capsule of the lens by the injuring body. The opacity is caused by the imbibition of the aqueous humor by the crystalline substance. Spontaneous cataracts very rarely give rise to this rupture of the capsule. When, therefore, a laceration of the capsule of the lens and a hernia of the crystalline substance is made out in an individual affected with cataract attributed to external violence, the probabilities in favor of the traumatic nature of the cataract are very great. If at the same time a wound of the cornea or sclerotic exists, the probabilities are still much greater. The existence of a wound of the cornea or sclerotic is not, however, absolutely necessary for the existence of a traumatic cataract, because clinical experience demonstrates that this kind of cataract may be caused by a shaking of the eye, without any solution of continuity in its membranes.

Even in those cases which present the greatest probability, as in those just mentioned, it is impossible to pronounce decidedly, because in an eye affected with spontaneous cataract, a wounding body may lacerate the crystalline substance, and cause an escape of the substance of the lens which was opaque before the accident through the rent into the anterior chamber. The eye then presents the characters of a traumatic cataract, and yet the case may be one merely of wound of a lens affected with spontaneous cataract—a circumstance which may be a means of curing the patient.

To resume, it may be affirmed that no special pathognomonic characters exist which would enable the surgeon to recognize a traumatic cataract; probable characters do exist. A single circumstance allows me to decide the question: if the medical men consulted had made out that both eyes were sound, and if in the course of a few hours, or on the following day, he discovers a cataract with capsular lesion, then there will no longer be any possible doubt.—*Half-Yearly Abstract of the Medical Sciences.*

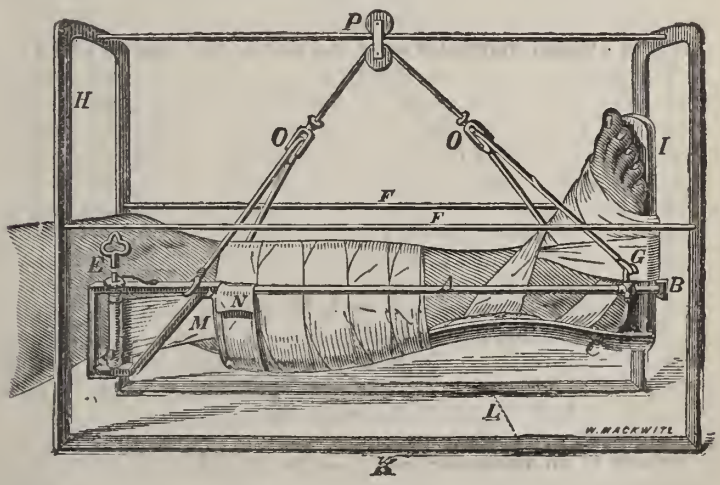
MISCELLANEOUS.

Clark's Suspension Railway Splint for treating Simple and Compound Fractures of the Leg: By E. A. CLARK, M. D., Resident Physician, St. Louis City Hospital. Republished from Humboldt Med. Archives, St. Louis, Mo., and revised by Author.

[The late arrival of the plates prevented the following from appearing in the surgical column.—EDS.]

THE great necessity for a well adapted apparatus in treating fractures of the leg, suggested the utility of the instrument I have designed in the following wood-cut, which, not only answers every practical purpose in treating this class of fractures, but also contributes very much to the comfort of the patient, who, while he is enabled to execute every movement of which the sound limb is capable, yet, cannot displace the fracture or modify the force of extension. In presenting this apparatus, I claim an advantage over those invented by Hutchinson, John Neill, Crandall and Salter, not only for the means of extension and counter-extension, but also its adaptation to the treatment of compound fractures of the leg, as represented in figure No. 2. And considering the simplicity of this instrument, with its cheapness and application to every variety of fractures of the leg, will certainly give it the precedence with those who may venture to use it in a single case. The apparatus is such as may be made by any blacksmith, or indeed by any ingenious surgeon in a case of necessity, when a wooden frame and two hoops, with a common iron pully, will answer quite as well as the instrument which I have had made of iron on the following plan:

No. 1.



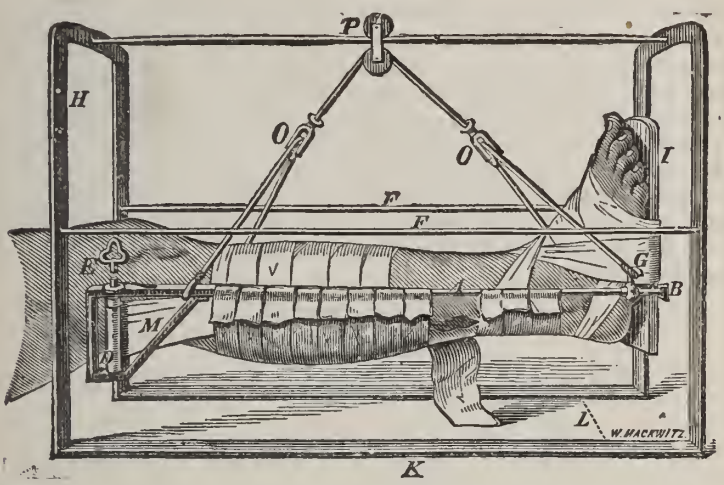
The two arches represented by the letter H, at one end, are

made of iron bars one-eighth of an inch in thickness, and three-fourths of an inch wide. These arches are continuous with the bottom pieces K, which support them upon the bed, and measure twenty-two inches in length, making the distance between the two arches, which are also supported on the sides by the two slender bars, F. F. While the bar extending across the top, upon which the pully P glides, should be made flat, with the long diameter perpendicular, so as to prevent it bending with the weight of the leg. The width of the arch under which the leg is suspended, as indicated by the letter L, should be 15 inches, and the arch 18 inches from the surface of the bed.

This description will be sufficient to indicate the proportions of the exterior apparatus. The bars represented by the letter (A), in which the leg is suspended, should be about two feet in length —unless when the fracture is too close to the knee, and it may be necessary to attach the adhesive straps (M) above the knee, then the bars may extend to near the perineum if necessary. The crossbar passing beneath the bracket at (B), and upon which the foot rests, should be flattened and five inches in length, so as to allow ample space for the limb to rest between the bars; the space between these bars at the upper end should ordinarily be about six inches. The splint (C) upon which the leg rests in figure No. 1, should be fluted upon its upper surface so as to conform to the shape of the leg, while it is also made oval upon its under surface, so that both the leg and the splint may be included in the bandage shown in figure No. 1, by which means any displacement may be corrected in the fracture and the bones kept in perfect apposition. The foot piece (I) should be attached to the posterior splint at an obtuse angle, so as to correspond with the natural position of the foot. The foot is bound to this piece by means of adhesive straps which may embrace the whole of the foot, and extend partially over the ankle, but not so as to arrest the circulation, as by the figure of eight bandage formerly used around the ankle for making extension. The leg then, as seen in figure No. 1, is supported upon the crossbar passing under the bracket (B) attached to the foot-piece, and by resting upon the strap (N), pinned over the bars (A) on either side; while the extension and counter-extension is effected by means of the bar across the foot-piece below, and above by means of adhesive straps three inches in width, as indicated by the letter (M,) which are attached to the sides of the leg, beginning just above the point of fracture and passing up to be wound around the cylinder (D), which is three and a half inches in length, and turned by means of an ordinary clock key, represented by the letter (E). This cylinder is held in any position to which it may by turned, by a ratchet and wheel placed upon the upper surface of the bar, as indicated in the diagram—It will be observed in figure No. 2, that there is no posterior splint as in the other diagram, but the leg is supported entirely by strips of muslin pinned over the bars on either side, which renders this apparatus more appropriate for

the treatment of compound fractures in which the wound may be examined and dressed when necessary, by removing one or more of these strips which may be replaced by new ones without dis-

No. 2.



turbing the fracture. The attachment of the foot-piece in this dressing does not in any particular differ from that of figure No. 1. The means of suspension is the same in both these dressings, which, by means of the pully at the letter (P), the patient is enabled to move his limb, or even his body, forward and back to the extent of the length of the bar upon which it glides, and by means of the cord playing over the under wheel in the same pully, the patient is able to flex and extend the knee by depressing or elevating the foot, which movement can be executed by a very slight effort on the part of the patient, while at the same time he can swing the leg from side to side, to any extent within the space of the arches; and by means of the cords playing through the pulleys at O. O, the leg can be rotated to any extent, even to allow the patient to lie upon his side if he desires, without disturbing the fracture in the least. It will be observed in the diagrams that at the letter G there is a thimble, which can be made to slide upon the bar, by means of which the lower end of the leg can be elevated or depressed at the will of the patient, by sliding this thimble forward or back, and fixing it at any point by means of the little thumb screw attached to this thimble. In developing the utility of this apparatus for the treatment of fractures of the leg, I have tried various means of attaching the foot at the bottom, such as the muslin and flannel bandages in the form of a figure of eight around the ankle, covering the foot also as far as the toes; but have always found them objectionable from the great amount of pressure and consequent arrest of the

circulation in the foot, though the flannel bandage is much less objectionable than the muslin. But I have been able to obviate this objection by the use of the adhesive plaster attached over the front of the foot, and around the foot-piece, as shown in the diagram. This I have ordinarily found quite sufficient, unless in rare cases, when an unusual counter-extending force is required, it may become necessary—as very aptly suggested by Prof. Hammer of this city—to pass a strip of adhesive plaster beneath the heel and around the foot-piece, which adds very much to the strength of the dressing. I have recently treated six cases of fractures of the leg with this apparatus, in which both bones were fractured, and in which there was more or less shortening in each case, with excellent results in all of them, without allowing the least deformity or shortening, while the patients were all grate ful for the comforts allowed them by this apparatus during their confinement.

CLINICAL AND STATISTICAL RECORD.

BY S. S. HERRICK, M. D.

Extracts from the Surgical Clinic of PROF. LOGAN, *at the Charity Hospital.*

CASE I.—*Complete Destruction of the inner half of the Vagina. Operation.*—We are indebted to Mr. M. Brown, the Student in charge of the Ward in which the patient was treated, for the particulars of this interesting case.

——, white woman, aged thirty-two; three years ago she gave birth to a dead infant, since which time she has failed to pass her menstrual fluid, the upper portion of the vagina having been entirely destroyed by sloughing and cicatricial occlusion.

Examination (Jan. 24th) showed that about the inner half of the vagina was wanting. With a catheter in the bladder and the finger in the rectum, only a comparatively thin plane of tissue seemed to occupy the intervening space. The portion of the vagina still open was only about two and a half inches.

The patient was placed under chloroform, and a careful dissection was made between the urethra and neck of the bladder in front, and the rectum behind, as far as the index finger could reach. To save the above viscera from injury, an intra-uterine speculum was pressed against the cicatricial tissue and then opened antero-posteriorly so as to keep these organs apart and the dissection was then made through the opened instrument,

which was made to follow the dissection as it progressed, It was deemed imprudent to continue any further, although it was not certain that the os uteri had been reached; it was presumed that cicatricial contraction had so acted upon it as to place it out of reach. Sponge-tents were introduced to prevent recontraction. Considerable cellulitis appeared on the third day, necessitating their removal, and accompanied by very considerable suppurative action with constitutional fever. This condition, however, under appropriate treatment, gradually subsided, her health improved, and she has gone on through two regular menstrual periods, the fluid escaping freely, and lasting, as she says, about the usual time. Upon examination, a canal admitting one finger is found, with a ragged and hard wall, passing as far up as the finger can reach, but still no os uteri can be felt. She was discharged at her own request, but advised to report at the hospital every three or four days, in order that the parts may be dilated by the introduction of a small-valved speculum introduced closed and gradually opened.

Case II.—*Fracture of Conjoined Cartilages of the Eighth and Ninth Ribs.*—C. H.——, aged thirty, white, Dublin. Was struck by a bale of cotton on the back of the right shoulder, and fell obliquely forwards against the bulwarks of the ship, on which he was standing at the time. The result was that, the ribs being protected by the flat surface against which he fell, from the usual fracture, this exceedingly rare form of injury was produced. Prof. Logan called attention to these facts, and explained how such an injury could be produced by forces acting just in this way only. He also pointed out that the lower fragment of the thoracic wall on the injured side was displaced downwards by the lateral abdominal muscles, the quadratus lumborum, etc.; that as a consequence of this displacement, crepitus could only be elicited by causing the patient to bend forward as if making a low bow, and that this crepitus, though distinct, was of the softer kind produced by the friction of broken cartilage.

Some days had elapsed since the accident, and a considerable lump of plastic effusion covers the seat of fracture. The patient complains of a sticking sensation when he coughs, as if the lower end of the upper fragment were curled inwards, or perhaps it was so displaced at the receipt of the injury. Prof. Logan called attention to the circumstances, and remarked in conclusion, that he had never before seen, or met with an account of, such a case.

A wide band of adhesive plaster was applied round the thorax, to arrest thoracic respiration; and the Professor insisted upon the importance of overlapping the ends of the plaster for some five or six inches in order to secure continued immobility.

Case III.—*Rhinoplastic Operation.*—Thos. M., white, aged 24. In a fight some years ago received a bite on the nose; the left nostril was slit open from a point near the tip of the nose horizontally backwards for about three-fourths of an inch. The result was an ex-

ceedingly disagreeable deformity, produced not only by the yawning chasm, but also by the great displacement of the anterior portion of the organ to the sound side, under the influence of the muscles belonging to that side, the integrity of the natural arch of the left ala no longer opposing their action. The bite must have healed by granulation, and there was probably some loss of substance, as the edges of the gap were formed of rough cicatricial tissue.

Operated February 14th, 1868, by paring the edges of the fissure carefully, uniting them with two silver wire sutures, and bridging the nose with narrow strips of adhesive plaster. Perfect union has now taken place (23d); the tip of the nose is precisely in the middle line, and all deformity has been removed except that caused by the cicatricial roughness of the skin for a little distance around, which resulted from the healing of the original wound.

Case IV.—*Aneurism of the Aorta, causing death by opening into the Œsophagus and filling the Stomach with blood. Absorption of Dorsal Vertebræ, etc.* Martin Geswind, aged forty-eight, bricklayer, native of Bazle, Switzerland. Entered hospital January 9th, 1868. Of a robust frame, muscles well developed; said he had been a very strong man. For the last four or five months had been suffering with a gradually increasing sensation of constriction across the chest, pain and difficulty of breathing. The voice is peculiarly hoarse, and his words are brought out with an effort. He is also troubled with a constant effort as if to clear the bronchial tubes, and a sharp, harsh cough. The upper portion of the right side of the chest seems somewhat bulging, and the heart's impulse is perceptible to the eye. The right wrist pulse is smaller than the left, and the right hand colder than the left. Auscultation showed slight aneurismal murmur, more distinctly heard as the ear is moved along the course of the aorta, and lost as it is moved downwards and to the left. The heart sounds proper appear normal, except, perhaps, a little roughness accompanying the systole.

Prof. Logan enumerated these symptoms, and then gave, as his diagnosis, excessive dilatation, if not aneurism, of the ascending aorta, with, perhaps, atheromatous roughness at the aortic orifice, with compensative hypertrophy of left ventricle. A few days after Prof. Logan sent the patient to Prof. Bruns' clinic for his examination, and the following observations and diagnosis were then made by him. "On stripping the patient a distinct bulging is apparent on the right side of the sternum at the second intercostal space. On passing the finger over this point an impulse is perceived corresponding with the ventricular systole. Auscultation reveals a prolonged, weighty sound, like the first sound of the heart, and synchronous with it, accompanied by a slight thrill. Precordial dullness is increased, the heart's action is labored and irregular, but there is no sign of valvular disease. The

pulse at right wrist is smaller than that at the left. The patient suffers from irritative cough and dyspnœa; the voice is husky and somewhat feeble. All this leads us to diagnose an aneurism of the ascending aorta."

The two gentlemen thus arrived separately at the same diagnosis.

The symptoms continued to increase in severity, and in the course of three weeks or a month symptoms of pressure on the œsophagus began also to present themselves, under the form of great efforts at, and noisy struggling to swallow, with frequent regurgitation of food. Prof. L. called attention to this as indicative now of the disease either involving the aorta further from its origin, or, perhaps, extending backwards towards the vertebral column. All the symptoms increased in severity to the date of his death, which occurred suddenly, February 18.

Post-mortem about five hours after death: The aorta was found dilated to a diameter of from two and a half to three inches, through the whole of the arch as well as in the ascending portion; at the point where it reached the vertebral column, rupture of the inner coats had occurred, producing an aneurism of about the size and shape of a goose's egg, and evidently of some standing, as proved by the following conditions: it's sac was nearly filled with thick layers of firm fibrine all around except at two points; *i. e.* where it communicated by an orifice of about one inch diameter with the right aspect of the descending aorta, and again at a point where the tumor had come into apposition with the œsophagus, into which tube it had raptured, filling the stomach with blood, and thus killing the patient. The bodies of the three vertebræ against which the tumor had rested, were absorbed to a maximum depth of about one-third of an inch. The heart, with all the thoracic aorta and the œsophagus were removed with the tumor, and, with the vertebræ involved, are to be deposited in the musuem of the New Orleans School of Medicine. Atheromatous degeneration, to some extent, had occurred in the aorta, from its orifice, which was somewhat rough accordingly. The valves were healthy, but the heart was fatty, and the left ventricle considerably hypertrophied, as had been expected.

Case V.—*Accidental Rupture of Adhesions in a case of Anchylosis of the Elbow of over Twenty-one years duration.*—D. T. R——, male, white, aged forty-nine years, native of Maryland, admitted into Charity Hospital, February 26th, 1868. In 1846, Prof. Gross operated at elbow, removing a portion of the left ulna for an injury involving the joint. Complete anchylosis was the result, the patient admitting that he had not strictly followed Prof. Gross's directions about passive movement of the parts. The anchylosis had taken place with the forearm at about the proper angle; but he affirms that for these twenty years there has not been the slightest motion at the joint. The day before he entered the hospital, he fell from the upper to the lower deck of a schooner,

falling on the anchylosed limb; and he says that he immediately observed the fact that the joint moved considerably, although with some pain. Such, upon examination, was found to be the case, and day by day the degree of motion is increasing under practice. The biceps and brachialis muscles are very much atrophied, but he, nevertheless, can flex the forearm slightly by muscular effort alone; though the full degree of mobility of the joint can only be ascertained by moving the parts by means of the hand either of the patient or the examiner. There is a little ecchymosis about the joint and considerable tenderness, but no evidence ot any serious injury of recent occurrence. Prof. Logan called attention to the important bearings of the case upon the treatment of traumatic and other forms of anchylosis, and directed the patient to move the parts freely every day, encouraging him with the assurance that if he did so he would regain, considerably, the function of the joint.

There are, also, several cases still under treatment of general interest; two cases of severe compound fracture of the leg, in which the effort to avoid amputation under rather unpromising circumstances seems to be meeting with success. Several cases of tertiary syphilis illustrating the importance, as insisted upon by Prof. Logan, of increasing the dose of iodide of potassium till its therapeutic effects are secured, irrespective of the quantity given. One patient has been taking a little over a dram of the salt three times a day for about three weeks, and it is only since these large doses were given that any improvement in the severe ecthymatous sores and the pharyngeal ulcerations has been perceived; now the sores are all rapidly healing. In one case of multiple nodes the dose reached two and a half drams three times a day. No unpleasant effects are produced when given with the syrup of the rind of orange or some other medium containing tannin.

Recovery from mild attacks of Traumatic Tetanus.

We are indebted to Dr. Henry Stuart, Ward Student, at the time, for the notes of the following two cases:

1. James Corcoran, aged thirty-four, native of County Sligo, Ireland, on the evening of January 1, 1868, received a blow over the right eye, from a slung-shot. On the seventh day after, the jaw became somewhat rigid; and the next day, while scrubbing the wheel-house of a river packet during a sleet in very cold weather, the wound on the brow swelled up, and the jaw became completely closed.

During the third week, experienced difficulty in deglutition—all attempts to swallow anything hot, or in a hasty manner, exciting violent fits of coughing, and a feeling of suffocation. The

matter expectorated was small in quantity and generally made its way into the posterior nares. Entered Hospital on the 29th of January; muscles of the face and neck contracted—those on the right side being most affected. On January 3d, the abdominal muscles became very hard and tense, and in the evening, he suffered from retention of urine due to spasm of the perineal muscles. His bladder was evacuated with the catheter. Two weeks after experienced the same impediment in urinating, and was relieved in the same manner. At the time of his discharge, February 24th, he had almost entirely recovered.

2. Henry Fricka—native of Hanover, aged forty-five entered the Charity Hospital, February 13th, 1868, suffering from tetanus. Thirteen days before his admission, he had been struck on the bridge of the nose with a piece of iron. The second day after was cold and rainy, and while pursuing his vocation as a bricklayer, he felt his wound growing more painful. The next day he noticed that his jaw was stiffer than usual, and shortly after he was seized with a spasm of the jaw, which lasted about twenty minutes, during which time the inferior maxilla was drawn a little to the left side. This was repeated at intervals, for several days. Felt himself daily growing worse until entering the hospital, when his symptoms began to abate. Never had difficulty in breathing or swallowing, the spasm being principally confined to his face and abdomen. The limbs, at one time, were so rigid as to prevent walking, except with great difficulty.

The whole course of the disease was mild, the symptoms passing away very gradually, and the patient is now walking about, complaining only of debility, and a slight immobility of the jaws. The tetanic grin, however, is still apparent on his countenance.

The treatment in both cases was similar. The following prescription was ordered: ℞ Aceti. opii. ʒiij, aquæ lauro-cerasi. ʒi, aquæ camphoræ ʒv. M. Of this mixture, a tablespoonful was given with sufficient frequency to procure quietude and sleep. Alcoholic stimulants were used from the first, and increased in quantity during the sweating stage; and laxatives were occasionally administered.

Board of Health.

THE obliging Secretary, Dr. G. W. Dirmeyer, has favored us with a copy of the mortuary report for 1867, which we here lay before our readers:

Mortuary Report of the Board of Health, from 1st Janary to 31st December, 1867.

DISEASES.	Jan.	Feb.	March	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL
Abscess of Abdomen									1			1	2
" Brain									1				1
" Head											1		1
" Kidneys							1	1					2
" Liver	1		1				1	1	2	2	2		10
" Lumbar													2
" Lungs													1
" Neck	1												1
" Rectum				1									1
Albuminuria	1	1	1		1	3			1			1	9
Aneurism			1	1							1		3
" of Heart							1						1
" of Aorta						1			1		1		3
Anæmia	2	2	3	4			2	3	3	3	3	1	26
Angina				2				1		1			4
" Pectoris									1		1		2
Asthenia		2									1		3
Atrophia					1					1	1	1	5
Apoplexy	7	6	6	9	10	7	3	11	8	9	8	7	91
Asthma	5	3	2	3			1	1		2	1	2	20
Brain, Disease of						1	1						2
Bronchitis	8	11	12	8	5	6	7	2	5	11	6	3	84
Burns or Scalds	7	5	2	2		3			4	6	4	1	36
Bright's Disease			3	1	2			1			1	1	9
Cancer	3	2	1	1	2	4		4	4	2	4		27
" of Abdomen											1		1
" of Breast						1		1	2				4
" of Brain									1				1
" of Face									1				1
" of Neck									1				1
" of Stomach	1	1	1	1							1		5
" of Tongue				1			1						2
" of Womb		1	3	2	2	1	1	4	1	1	1	3	20
" of Rectum						1							1
Catarrh	2	2	3	2		1				2	5	1	18
" Senile						1							2
Carbuncle								1	1	1			3
Chicken Pox										1			1
Cholera	5		1			4	36	39	15	37	234	210	581
" Infantum		1	3	2	11	14	11	12	5	5	22	14	100
" Morbus	2	2	4			2	6	5	4	3	8	10	46
Cirrhosis of Liver		1		2			1	2	2			2	10
Colic	1	2	1	2							1		7
" Bilious					1		1		1		1		4
Colitis											1		1
Compression of Brain		1	2										3
Concussion "				1					1				2
Congestion of Bowels	2	1	1		1	1	1		4	1	1		13
" Brain	5	4	9	5	7	12	11	21	25	35	17	9	160
" Liver									1				1
" Lungs	2	4	3	3	3	1	2	3	3	3	1	4	34
Constipation of Bowels										1			1
Consumption	40	53	65	51	47	54	55	53	64	60	72	57	671
Convulsions		1		15			2		28	3	3	2	54
" Adult	2		1			2	1	3	1		3	1	14
" Infantile	11	15	17	8	13	24	20	38	27	53	29	17	270

Mortuary Report—Continued.

DISEASES.	Jan.	Feb.	March	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL
Convulsions Puerperal	.....	.....	.....	.....	.....	.....	1	1	.....	1	.....	.....	3
Cyanosis	1	.....	.....	.....	.....	.....	.....	2	.....	1	.....	2	6
Croup	7	8	7	1	3	1	2	4	4	2	3	4	46
Debility	.....	1	4	.....	.....	2	.....	.....	8	8	9	12	44
" Adult	6	6	1	7	5	6	5	6	2	.....	.....	.....	44
" Infantile	6	2	2	1	8	4	5	11	2	1	.....	3	45
Delirium Tremens	.....	2	2	1	1	3	4	2	3	2	1	1	23
Diarrhœa	6	1	6	4	5	13	7	9	12	8	10	5	86
" Acute	1	2	1	.....	.....	2	.....	.....	1	5	1	1	14
" Chronic	4	5	3	7	7	10	12	13	12	12	11	9	105
Diabetes	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Dropsy	3	4	3	3	2	2	7	3	3	5	4	3	42
" in Abdomen	.....	.....	1	2	1	1	3	4	2	.....	2	1	17
" of the Brain	2	2	2	2	.....	3	3	1	2	4	.....	3	24
" in the Chest	.....	.....	1	.....	1	1	1	.....	1	.....	.....	.....	5
" of the Heart	.....	.....	.....	.....	2	.....	1	.....	.....	.....	.....	.....	3
" Ovarian	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Drowned	2	8	5	6	3	17	10	7	7	5	5	5	80
Dysentery	1	4	5	1	4	17	13	14	7	12	18	8	104
" Acute	.....	1	.....	2	.....	1	3	3	1	3	3	.....	17
" Chronic	8	1	5	3	2	5	7	12	3	2	7	4	59
Diphtheria	2	3	2	.....	.....	1	2	6	5	3	3	4	31
Enlargement of Liver	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Epilepsy	.....	1	.....	3	1	3	.....	2	5	1	.....	3	19
Entero-Colitis	.....	.....	1	.....	.....	6	6	7	7	3	1	6	37
" Mesenteritis	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Erysipelas	.....	1	2	.....	.....	3	.....	.....	2	1	.....	.....	9
Elephantiasis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Exposure	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Fever	.....	.....	.....	.....	.....	.....	1	4	10	3	4	.....	22
" Bilious	1	1	.....	.....	2	3	3	6	15	12	1	1	45
" Congestive	2	1	7	2	8	17	26	55	58	66	26	10	278
" Pernicious	1	3	2	1	2	9	13	47	90	67	12	8	255
" Intermittent	3	2	1	1	2	6	12	11	8	4	1	1	51
" Brain	2	1	5	2	1	.....	2	6	14	3	3	.....	39
" Nervous	1	1	.....	.....	1	1	2	3	2	1	1	.....	13
" Puerperal	.....	.....	1	1	.....	.....	.....	3	.....	1	1	4	11
" Remittent	3	.....	2	.....	.....	1	9	25	27	31	11	1	110
" Scarlet	1	1	1	.....	.....	.....	2	1	4	.....	.....	2	12
" Malignant	.....	.....	.....	1	.....	.....	.....	.....	4	7	.....	.....	12
" Gastric	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
" Typhoid	8	6	4	3	3	11	5	17	20	26	8	8	119
" Typhus	2	.....	.....	1	.....	.....	1	.....	9	7	1	2	23
" Yellow	.....	.....	.....	.....	.....	3	11	255	1637	1072	103	26	3107
Fracture	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	2
" of Arm	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
" of Leg	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	2
" of Skull	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	2
Gangrene	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	2
" of Bowels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
" of Lungs	.....	1	1	.....	1	1	1	.....	.....	.....	.....	1	6
" of Nose	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
" of Scrotum	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
" of Mouth	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
" Senile	.....	.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	3
Gastro-Enteritis	10	3	5	1	8	9	9	9	9	25	15	19	122

Mortuary Report—Continued.

DISEASES.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
Gastrodynia									1				1
Glottis, Spasm of				1									1
Gout			1				1		2				4
Hæmorrhage	1		1			1		2	3	1	1		10
" f'm Lungs	1	2	1	2	2		2	1	3	1		3	18
" Navel							1			2		1	4
" Stomach	2									1	3		6
" Womb								2	3	3			8
Heart, Disease of	14	11	8	9	6	7	7	14	12	4	8	10	110
" Valv'r									2			1	3
" Enlargement of			1			2	2	1	1			1	8
Hernia											2		2
Hooping Cough	2	2	2	3	3	5	2	4	3		1	1	28
Hysteria						1				1			2
Hæmaturia	1												1
Hydrophobia					2								2
Imperforate Anus											1		1
Inflama'on of Bladder					2		1				1		4
" Bowels	2	2	2	3	8	23	16	9	4	2	9	1	81
" Brain	2	3	2	3	2	4	2	12	5	5	1	2	43
" Heart											1	1	2
" Kid'ys			1					1	1	1	1		5
" Larynx							1					1	2
" Liver	3		3	2	2	4	2	7	4	4	5	4	40
" Lungs		4		1		2	1	2	1		3	2	16
" Stom'h	1			1	1	2	5	7	2	2			21
" Throat									1	2			3
" Veins	1												1
" Womb	1	1				1			1		1	2	7
" Vagina										1			1
Inanition						1	2			3	3		9
Intemperance			3	1			2	3		3	2		14
Intestines, Disease of								1					1
Intussception of Int'es						1							1
Jaundice	1		1			1				1	2		6
Kidneys, Disease of												2	2
Killed Accidentally	2	2	4	2	4	5	2	4	1	5	2	7	40
Killed or Murdered		2	5	2						4	1	1	15
Labor, Difficult	2			1	1			1					5
Lightning								1					1
Liver, Disease of	1	1			1		1	2	1			1	8
" Fatty Degen. of											1	1	2
Laryngitis					1								1
Lockjaw	2	3	1	4	6	10	15	19	21	23	18	6	128
Marasmus, Adult	3	1	2		1	1	1	3	4	4	6	4	30
" Infantile	4	1	3	6	7	11	19	11	10	12	21	11	116
Malpractice										1			1
Measles						1		1					2
Meningitis	3	5	6	2	5	5	6	6	4	7	1	6	57
Odœma of the Lungs	1												1
Old Age	8	8	7	3	1	3	1	5	3	8	6	7	60
Paralysis	2	2		1	1	2	4	6	4	3	5	5	35
" of Bladder			1										1
" Mercurial							1						1
Peritonitis	3		2	1	1	3	1	2	2	5	2	2	24
" Puerperal								1					1
Pericarditis	1				1		1		1	1			5

Mortuary Report—Continued.

DISEASES.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TALOT
Pleurisy	1	1	3	1	1	3	.....	.....	1	.....	2	.....	13
Paraplegia	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Pneumonia	43	29	31	22	11	16	9	7	27	28	17	27	267
" Pleuro	.....	.....	.....	.....	.....	.....	.....	.....	1	3	2	2	8
" Typhoid	3	1	1	1	2	.....	1	.....	1	.....	.....	.....	10
Poison	.....	.....	1	1	.....	.....	1	2	1	.....	.....	.....	6
Premature Birth	3	3	2	.....	3	7	4	5	5	8	9	3	52
Pyæmia	.....	.....	.....	1	.....	.....	.....	.....	1	2	1	1	6
Purulent Absorption	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	2
Purpura	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	.....	3
Rheumatism	2	1	1	2	1	.....	.....	1	3	3	2	.....	16
Rickets	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Scrofula	.....	.....	.....	1	2	1	.....	2	.....	3	1	.....	10
Scurvy	1	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	3
Small-pox	7	9	5	5	6	5	1	1	1	.....	.....	.....	40
Softening of the Brain	1	3	1	2	.....	2	3	1	1	2	6	1	23
" of Stomach	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Stillborn	25	31	33	31	22	49	36	58	65	55	54	51	510
Syphilis	.....	.....	.....	.....	.....	.....	1	.....	1	4	.....	.....	6
" Secondary	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	2
" Tertiary	.....	.....	.....	.....	.....	.....	2	.....	1	.....	1	.....	4
Suffocation	2	.....	.....	1	.....	.....	.....	1	1	.....	1	1	7
Suicide	1	2	1	1	2	5	.....	.....	2	1	1	.....	16
Sunstroke	.....	.....	.....	.....	.....	2	.....	3	1	.....	.....	.....	6
Skin Disease	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	2
Stomach, Disease of	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2
Spine, Cleft	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
" Compression of	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
" Injury to	.....	.....	.....	1	.....	1	.....	1	.....	.....	.....	.....	3
Stricture of Urethra	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Teething	1	3	6	4	5	19	12	16	9	14	13	5	107
Tris. Nascentium	29	13	19	22	10	25	12	20	24	28	16	20	246
Tumor	.....	.....	.....	.....	.....	1	.....	1	.....	.....	1	.....	3
" of the Brain	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
" of the Womb	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
" of the Pelvis	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Tabes Mesenterica	1	.....	1	1	2	4	.....	3	1	1	1	.....	15
Thrash	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Tubercles on Brain	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Ulceration	.....	.....	.....	1	.....	1	.....	.....	.....	1	.....	.....	3
" of Bones	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
" of Bowels	.....	.....	.....	2	.....	.....	1	.....	2	.....	.....	.....	5
" of Leg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
" of Stomach	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
" of Throat	.....	.....	1	.....	.....	1	.....	.....	2	.....	.....	.....	4
Urine, Suppression of	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2
" Infiltration of	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Unknown	9	13	4	8	5	8	9	10	3	5	4	4	81
Varioloid	2	4	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	7
Worms	.....	.....	.....	.....	.....	.....	.....	.....	2	3	.....	.....	5
Wounds	1	.....	.....	.....	2	.....	.....	1	.....	1	.....	.....	5
" Gunshot	1	.....	1	1	1	1	.....	.....	.....	1	3	.....	9
Womb, Disease of	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	1	3
Not stated	5	6	2	4	4	5	1	12	16	14	7	4	80
Total	397	362	401	350	316	561	551	1039	2498	1942	959	720	10096

COLOR.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec..	Total
Whites	272	239	277	236	175	399	390	794	2193	1710	715	466	7866
Mulattoes	40	43	19	36	33	55	57	50	68	53	84	67	605
Blacks	80	73	98	69	87	95	98	142	126	147	140	171	1326
Not stated	5	7	7	9	21	12	6	53	111	32	20	16	299
Total	397	362	401	350	316	561	551	1039	2492	1942	959	720	10096

SEX.

Male	219	193	246	191	164	293	293	646	1708	1294	594	399	6239
Female	165	145	141	146	145	244	232	354	731	621	345	297	3566
Not Stated	13	24	14	13	7	24	27	39	59	27	20	24	291
Total	397	362	40	350	316	561	551	103.	2498	1942	959	720	10096

AGES.

Under 1 year	95	97	115	108	104	209	139	193	205	256	193	149	1863
1 to 2 years	25	13	25	24	15	44	57	57	95	80	63	31	529
2 to 5 "	18	18	22	9	12	29	26	54	149	129	52	48	566
5 to 10 "	8	14	9	12	7	10	15	27	159	152	48	30	491
10 to 15 "	8	8	5	7	5	8	16	21	68	73	15	19	253
15 to 20 "	12	8	7	5	4	22	10	49	174	112	40	23	466
20 to 25 "	16	15	17	18	19	24	33	105	363	225	67	40	942
25 to 30 "	19	27	19	16	22	30	31	111	400	228	83	53	1039
30 to 40 "	47	34	52	44	37	47	67	166	422	308	130	87	1441
40 to 50 "	52	40	48	29	30	47	60	100	196	153	103	88	946
50 to 60 "	35	26	34	33	18	32	47	51	91	107	71	59	604
60 to 70 "	25	24	14	18	24	21	13	28	39	44	45	49	344
70 to 80 "	17	14	8	9	2	12	8	14	27	14	22	16	163
80 to 90 "	8	7	7	5	1	4	5	5	4	13	7	4	70
90 to 100 "	2	.....	.....	2	1	.....	2	1	.....	2	2	.....	12
109 and upwards	1	1	.....	1	.....	.....	.....	2	1	1	1	2	10
Unknown	9	16	19	10	15	22	22	55	105	45	17	22	357
Total	397	362	401	350	316	561	551	1039	2498	1942	959	720	10096

NATIVITIES.

COUNTRIES.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL
Africa	1	.....	2	1	.....	1	.....	2	.....	1	1	.....	9
Austria	2	.....	1	2	.....	.....	2	6	18	8	2	3	44
Australia	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
British America	.....	.....	.....	.....	.....	1	2	.....	5	1	.....	1	10
Belgium	.....	.....	1	.....	.....	1	1	.....	3	5	.....	1	11
Bohemia	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	3
Canada	1	.....	1	1	1	.....	2	4	25	14	1	2	52
China	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Denmark	.....	1	1	2	.....	1	2	5	3	7	.....	.....	22
East Indies	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	2
England	6	6	3	1	1	2	5	18	65	57	17	12	193
France	6	14	9	14	10	19	16	78	188	119	54	22	549
Germany	31	18	16	13	20	19	37	120	354	244	91	32	995
Holland	1	....	1	.....	1	1	2	.....	1	1	.....	.....	8
Ireland	49	45	47	43	24	41	43	96	355	223	98	69	1133
Italy	2	3	3	3	.....	4	4	26	44	37	13	5	144
Mexico	.....	.....	.....	.....	1	.....	1	.....	1	2	.....	.....	5
Norway	.....	1	.....	.....	.....	.....	.....	.....	1	1	1	.....	4
Poland	.....	.....	.....	.....	.....	.....	.....	2	10	4	.....	1	17
Portugal	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	.....	3
Prussia	1	3	4	.....	2	6	2	19	83	33	13	5	171
Russia	.....	.....	.....	.....	.....	2	1	5	7	2	1	2	20
Sandwich Islands	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Scotland	3	1	2	1	.....	5	.....	9	26	8	5	6	66
Sea	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
South America	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	.....	3
Spain	4	4	2	.....	1	4	6	10	6	2	11	3	53
Sweden	.....	.....	.....	1	1	2	.....	2	6	4	1	.....	17
Switzerland	.....	2	1	2	3	.....	1	7	15	10	2	3	46
United States	204	202	224	211	182	329	306	468	1021	935	506	402	4990
Unknown	.....	.....	1	.....	.....	.....	.....	.....	1	2	1	2	7
Wales	....	.....	1	.....	.....	.....	.....	.....	3	.....	1	.....	5
West Indies	1	1	.....	.....	4	2	2	4	6	1	8	5	34
Not Stated	85	61	81	54	65	120	116	158	248	215	128	144	1475
Total	397	362	401	350	316	561	551	1039	2498	1942	959	720	10096

It should be observed that this does not include the mortality in the United States forces here stationed, which would make a difference, especially under the head of yellow fever. The number of deaths from the last cause, reported by the Medical Director, was 213, out of a force numbering from 1000 to 1100 troops.

By the report of the Howard Association, published in this number, we are able to form some idea of the total number of cases of yellow fever during the late epidemic. The mortality among their cases was eight per cent., which was much smaller than that at Charity Hospital and among the United States forces, and perhaps larger than in ordinary private practice, and might be taken as a fair average of the whole. We can estimate,

then, that 3107 + 213 = 3320 deaths, would afford an approximation of 41,500 cases, or about *twenty-five per cent.* of the actual population of the city, during the epidemic.

The effect of climate in modifying diseases is exemplified in the mortality from cholera infantum and trismus nascentium, as compared with that found in more northern cities. Of the former we have 100 deaths in a total mortality of 10,096, or about *one per cent.*, probably less than in northern cities. Of the latter we have 246 deaths, or nearly *two and a half per cent.*, certainly greater. Regarding the yellow fever mortality as fortuitous, and leaving its *thirty per cent.* out of account, the above percentages should be correspondingly raised.

We must regard 510 cases stillborn, or more than *five per cent.* of the total mortality (about 7.3 *per cent.* leaving out yellow fever) as something not unavoidable. Its cause is attributable probably to the fact that a great majority of the labor cases here fell into the hands of midwives; whose knowledge is about equivalent to their responsibility for results, a quantity perhaps appreciable by the infinitesimal fraternity. We are disposed to be charitable, and believe that when a woman's necessities present the alternative of midwifery or prostitution, the latter may prove the lesser evil to society. This abuse we consider a very serious one, and may take occasion to dwell on it more fully at some future time.

It is to be observed that 81 deaths are reported from unknown causes, and 80 more from causes not stated. It is by law made the duty of attending physicians to certify the cause of death, which is next attested by the recorder of deaths; no sexton is authorized to permit burial without such a certificate, or one from the coroner in case the former cannot be obtained. We are strongly of opinion that the Board of Health should look into this matter, and not suffer the community again to be outraged with an official report of 161 unaccountable deaths in one year, or 1.6 *per cent.* of the entire mortality. Already we labor under the charge of cheapening human life, and such figures might lead a stranger just arrived to the unpleasant apprehension that, barring the inconstant dangers of yellow fever, he would stand rather worse than one chance in fifty of being murdered, and then buried for some cause "unknown" or "not stated."

Howard Association.

THROUGH the politeness of Mr. J. F. Caldwell, Secretary of the Association, we have been furnished with advance sheets of their report for the epidemic of 1867. By this it appears that the number of yellow fever cases under their charge was 4192, of which there died 340, and recovered 3852.

The following exhibits the nativities of the medical cases, as

nearly as could be ascertained: United States, 1553; Ireland, 1330; Germany, 512; England, 66; France, 26; Prussia, 12; Italy, 11; unknown, 632; total, 4,192.

In addition to the above, relief was granted to 6,197 other persons, in families where sickness or destitution prevailed. Besides New Orleans, the adjoining towns, Jefferson City, Carrollton, Algiers, and Gretna, experienced the good offices of the Association, and their returns are incorporated into the report.

Though the fever ceased to be epidemic by November 20th, the Association were not able to bring their labors to a close for nearly a month afterwards.

The mortality in the yellow fever cases was only about 8 per cent, while in the epidemic of 1858 it was 22 per cent. This remarkable difference is probably attributable to two causes: (1) the milder character of the disease, and (2) a more rational treatment, which consisted chiefly in the most careful nursing with very little medication.

We have before taken occasion to express a high appreciation of the unwearied labors of this self-sacrificing body of men. A repetition of this would only re-echo the universal sentiment of our community, and not add to the highest of human rewards, an approving conscience.

REVIEWS & BIBLIOGRAPHICAL NOTICES.

The Physiology of Man: Designed to represent the Existing State of Physiological Science, as applied to the Functions of the Human Body: By AUSTIN FLINT, Jr. M. D., Professor of Physiology and Microscopy in the Bellevue Medical College, New York, D. Appleton and Co. 1867—8vo. pp. 556.

THE second volume of Dr. Flint's treatise now before us, embraces the subjects of Alimentation, Digestion, Absorption, Lymph and Chyle. The succeeding volumes of the series will be devoted, he tells us, to Secretion and Excretion, Nutrition, Movements, etc., the Nervous System, and Generation, and will appear as rapidly as is consistent with their careful preparation. The second part will not disappoint Dr. Flint's friends, or those readers who have formed a clear idea of his purpose, namely, to present, as his title page sets forth, a fair resume of the present condition of physiology.

The painstaking research, the conscientious examination, and the impartial judgment which the first part of the series exhibited, are fully sustained in the second, where, from the nature of the subjects handled, the temptation to substitute opinion for fact, and the opportunity for pressing favorite theories were very strong. Both of these faults the author has carefully avoided, and we

have no hesitation in saying, that, so far, Dr. Flint has scrupulously kept his faith with himself and with his public, and presented us with an honest image of the physiology of to day, as far as that distorted body can be intelligibly reflected.

Under the head of Digestion Dr. Flint has incorporated the substance of his paper, published in 1862, in the American Journal of Medical Sciences, on a new principle discovered by him in the fæces, and which, as he believed it to be the most abundant characteristic constituent of the stercoraceous matter, he proposed to call *stercorine*. This is a clear, slightly amber, oily substance, about the consistence of Canada balsam, and crystallizes in delicate acicular forms, identical with the crystals of seroline figured by Robin and Verdeil. It is neutral, inodorous, insoluble in water and in a solution of potash, but soluble in ether and hot alcohol. It fuses at the low temperature of 96.8° Fahr. The daily quantity excreted is about ten grains. It doubtless is, as Dr. Flint thinks, a modification of cholesterine, the excrementitious principle of the bile.

When we say that this is about all the new matter to be found in the second volume, we do not wish to be regarded as denying the author the credit of having shown throughout strong original powers of observation and judgment, and of having exhibited the most praiseworthy industry in confirming the views of his coworkers by repeated personal experiments, wherever this was possible.

It is obvious that the work is one to be read, not reviewed. Judged, by its own standard, it fully accomplishes all that it promises, and we know of no praise that should be more acceptable to an honest author. Two points only we desire to call his attention to.

In the section upon alimentation, Dr. Flint observes that "the view that alcohol undergoes combustion or oxidation," (in the blood current or in the lung capillaries, we suppose he means), is based upon theoretical, and not upon experimental considerations; and the fact that this substance is always eliminated even when taken in minute quantity, and that its elimination continues for a considerable time, gradually diminishing, render it probable that all that is taken into the body is removed.

Now there can be no question that alcohol is in great part removed by the kidneys, and perhaps also by the lungs; though we must be careful not to assume that alcohol is present, because its odor is perceived in the breath; for the odor is due to the peculiar flavoring ethers or volatile oils, in every case associated with alcohol, but differing according to the source whence the latter is derived.

The very authority upon whose researches the foregoing affirmation is based, viz., Lallemand, Perrin and Duroy, quoted by Dr. Flint on the preceding page, state, that "when very small quantities of alcohol are taken it is continually eliminated until all is removed or destroyed." What then is this destruction which is thus invoked to explain in part the disappearance of alcohol

within the blood mass? Can it be aught else than an oxidation? Can alcohol fail to be consumed even if not present in excess? How is it possible that a substance which under ordinary circumstances so readily admits of oxidation, passing consecutively through the chemical phases of aldehyde, acetic acid, oxalic acid, and carbonic acid and water, can be mingled with a mass so replete with oxidative capacity as the blood and escape decomposition? Does it follow that because some alcohol is found in the urine of an old drunkard, none has been oxidized in his blood, any more than because smoke escapes from a funnel, with unconsumed particles of carbon floating in its wreaths, no fuel has been consumed in the furnace below? The fact is that physiologists, in approaching this question have been sadly shackled by considerations properly pertaining to social reform, and they have attempted to invoke the frowns of science upon the use of a much abused but inestimably precious article. Because an excess of alcohol depresses the temperature and muscular power of an enfeebled body, they would have us believe that a moderate amount of spirit will not warm the blood and infuse new courage into the sinking heart. "Give strong drink to him that is ready to perish!" Common experience, as well as Holy Writ, teaches us this; and when common sense and physiology do not agree it is bad for physiology.

While Dr. Flint cannot believe that alcohol is slowly oxidized in the blood current, and while he denies that this blood fuel, by which alone so many feeble sparks of life are being at this very moment sustained, is aliment, he yet passes over, without consideration, the important question as to the destruction of that great mass of glucose, cane sugar, and other sugars, which is taken up by the radicles of the vena portæ and passed through the liver tissue. Here he treads exactly in the tracks of his originals, and obviously thinks with Bernard and most of his contemporaries, that glucose is transformed into lactic acid. Dr. Flint is fully aware that a quantity of glucose, derived from extra-systemic or intra-systemic sources, or from both, is liberated in the liver, nearly equal in amount to the whole quantity of amylaceous and saccharine food ingested; yet he does not seem to concern himself with the destination of this vast quantity of alimentary material, at least as far as we can appreciate the scope of his studies.

Has it ever occurred to Dr. Flint that this eminently fermentescible liver sugar may be endowed with a susceptibility of transformation into alcohol and carbonic acid, greater than that which pertains to any other substance of this class, to some purpose? Let him tear the lungs from a newly decapitated animal, distill them, within a few minutes, down to thirty or forty minims of clear fluid, and test this distillate with chromic acid and by inflaming its vapor upon ebullition in a test-tube, and he will find that it will burn as the vapor of alcohol burns, and that the green sesquioxide of chrome will impart its emerald hue to the fluid;

which it will only do, for a liquid obtained as indicated, if alcohol be present.

Dr. Flint knows, for it is one of Claude Bernard's especial maxims, that, in the fasting state, no sugar enters the left ventricle. It has all disappeared between the liver cells and the pulmonary veins. Has it been transformed into lactic acid? which, if present in the blood, acts as an irritant poison, setting up inflammations of the endocardium and of the synovial membranes, as Richardson has shown, and the normal existence of which, in the blood, even the acuteness of the sagacious Lehmann could never determine. Or is it broken apart by the diastolic properties of changing albumen, or retrogressive fibrin, into alcohol and carbonic acid? Can this sugar, so peculiarly fermentescible, be launched into the blood, a liquid in which countless zymotic operations are continuously going on, and fail to find that diastase which will cause it to break up into its natural components? Out of the body, a little white of egg, a little blood serum, a fragment of muscle or of fascia, is all that is necessary; cannot the analogue of these be normally found in the depths of the blood and in the heart of the muscles?

At any rate, so keen-sighted and industrious an author as Dr. Flint should not have overlooked the remarkable paper of Dr. Wm. Hutson Ford,—read before the Elliott Society of Natural History, of Charleston, S. C., in 1858, and published by them,—on the "Normal Presence of Alcohol in the Blood." Dr. Ford found alcohol in fresh, mixed thoracic blood, in fresh liver tissue, in fresh lung tissue, all reduced very rapidly to pulp, and distilled within from eight to forty-five minutes after the death of the animal. In some cases the material was taken directly from the animal, and the only time lost was that necessary to bring it to a boiling point. In all cases alcohol burned from the test tube, and also struck the characteristic green tint with chromic acid dissolved in sulphuric acid. No one has ever repeated these experiments; few have even noticed them. Can it be because they came out of Nazareth? We commend them to an author who has the chemical tact to ensure their faithful repetition, and the physiological knowledge to appreciate their bearing.

One more word and we are done. Under Insufficient Alimentation, Dr. Flint has drawn largely on Andersonville to illustrate the horrors of inanition. The time has not come yet when we can summon the executioners of Wirz before an impartial bar. With the bayonet at her breast the Muse of History must be silent or lie. But as Dr. Flint's relations with Prof. W. H. Van Buren, of the U. S. Sanitary Commission, are so cordial that he could get access to all the material bearing on the medical history of the war, could he not have obtained the statistics of Elmira, and painted for us the history of starvation, when the depressing influences of extreme cold are added to those of insufficient food? Prof. Joseph Jones, quoted by Dr. Flint, says that one-third of the Federal prisoners perished in less than seven months; but the

Elmira Gazette, a northern paper, and published on the spot, says that *more than one-fourth* of the Confederate prisoners died in that place *in four months.* It is our authority for the statement that in February, March, April, and May, 1865, out of 5027 prisoners confined there, 1311 died, showing a death rate per month of six and a half per cent., against less than three per cent. at Andersonville, according to the official record. Mr. Kelley, in his journal of September, 1864, when confined there kept a record of deaths for that month, and states them to have been 386 out of 9500 then there, or at a rate of more than four per cent. Will Dr. Flint give us the details in his second edition? J. D. B.

Studies in Pathology and Therapeutics: By SAMUEL HENRY DICKSON, M. D., L.L.D., Professor of Practice of Physic in Jefferson Medical College, Philadelphia, Penn., etc., etc. New York, Wm. Wood & Co., Publishers. 12mo., pp. 201.

IN this little volume, Dr. Dickson has collected six essays on Disease, its Character and Tendency; The Causation of Disease; Certain Morbid Conditions of the Sensorial System; Pneumonia; Scrofulosis and Tuberculosis, and Therapeutics; four of which were read, he tells us, to the Class of Jefferson Medical College, as a portion of the Course of Summer Lectures of 1866, and afterwards published in the Richmond Medical Journal. The essay on Scrofulosis and Tuberculosis is a stenographic report of an oral lecture, delivered to the Winter Class of the same Institution during the session of of 1866-7, and the Essay on Pneumonia is new, and appears here for the first time.

Dr. Dickson has long stood at the head of the classical writers on Medicine in this country, and this last contribution of his facile and elegant pen will increase the reputation he deservedly enjoys, as one of the most thoughtful and finished of American authors. We have read his essays with critical care, and while we closed their perusal with the highest feelings of satisfaction, we at once abandoned the intention of reviewing them with which they were taken up. A mere glance at the list of subjects would serve to indicate the extent of the field which has been here surveyed; but only those who have pondered them carefully can appreciate the wide discussion of the highest pathological questions which their thorough examination would involve. Indeed, it is the special excellence of these papers that their accomplished author has himself sat in judgment on the profoundest generalizations which modern medicine is attempting, and he has done this with an impartiality which is both rare and admirable. To a range of information which has gathered its illustrations from every department of knowledge, and a personal experience which covers half a century of active study and practice, Dr. Dickson adds a judicial calmness of temper strikingly in contrast with the dogmatic and partisan vehemence of most medical writers, and has delivered the results of his long deliberation in a style of unsurpassed sweetness and purity. Next to Sir Henry Holland's charming Reflections we know of no body of medical *Varia* so

catholic and suggestive, and in breadth, handling, and tone, they are not unworthy to be classed with them.

We earnestly commend them to the profession, with the assurance that within the same compass they will not soon meet with so much instructive teaching conveyed in so attractive a form.

J. D. B.

Chronic Diseases of the Larynx, with special reference to Laryngoscopic Diagnosis and Local Therapeutics: By Dr. ALBERT TOBOLD, Lecturer in the University of Berlin. Translated from the German and edited by GEORGE M. BEARD, A.M., M. D., Lecturer on Nervous Diseases in the University of New York, with an Introduction by the Editor. New York, W. Wood & Co. 8vo. pp. 279.

DR. TOBOLD'S work is probably the best practical treatise on diseases of the larynx that has yet been published, and it is a welcome addition, in its present convenient form, to our rapidly enlarging library of works on this subject. Dr. Beard has exercised a wise censorship in cutting out much mere theoretical matter from the bulky original, and adding a very well written introduction on Laryngoscopy, Rhinoscopy, and Inhalation. Dr. Beard prefers Tobold's apparatus for illumination, but we do not think it possesses any advantages over McKenzie's, and the latter's portable condenser has the high recommendations of being applicable to any lamp, easily carried, readily adjusted, and too simple ever to get out of order. Whether the reflector should be attached to the apparatus, or worn with a forehead-band or on a spectacle frame, is a matter of individual preference. We like the latter ourselves.

To those who have not the opportunity for clinical practice, we would recommend a simple phantom of our own that will answer every purpose for training. It is a cylinder, made of stout paper or cardboard, about three inches high, with two bits of narrow tape run horizontally through the lower third, partially covered with an artificial epiglottis of card-paper, inserted through a slit in the cylinder over the tapes, at an angle of about forty-five degrees. With such a phantom, which any one can make for himself in a few minutes, a practical acquaintance with the use of instruments, the habit of measuring distances, and correcting the reversion of the image as seen in the mirror, and dexterity in touching any desired point, can be acquired as perfectly as on the living subject, and without that embarrassment to the operator and pain to the patient which are sure to attend the bungling attempts of a beginner.

J. D. B.

The Treatment of Diseases of the Throat and Lungs by Inhalation, with a new Inhaling Apparatus: By EMIL SIEGLE, M. D. Translated from the second German edition, by S. Nickles, M. D. Cincinnati: R. W. Carroll & Co., 12mo., pp. 136.

DR. SIEGLE'S name has been made quite familiar in this country

of late, by his devotion to inhalation as a method of treatment and his admirable apparatus for the employment of medicated vapors. Codman & Shutleff's improved modification of this, leaves nothing, we think, to be desired. The safety-valve works admirably if kept clean, and we have used very high pressure for many months, in the same atomizer, without accident, and without its becoming disordered. We are sure that Dr. Siegle's experience will be welcome to those specially interested in this mode of medication, though they will find little if anything new in this monograph. Like most specialists, he is open to the charge of overrating the value of his particular method of treatment, and of not giving due credit to the older and more general forms of managing pulmonary and laryngeal disease. His wholesale rejection of cod liver oil, will not be endorsed, we think, by the profession, nor will the experience of the majority bear out his sanguine assertion, as regards the great benefit of inhalations in tuberculosis. They have their place; but it should not be forgotten that this is only as an adjuvant to the more important general treatment by regimen, exercise, and the like.

J. D. B.

Diseases of the Heart; Their Diagnosis and Treatment: By DAVID WOOSTER, M. D., Member of the Royal Academy of Medicine and Surgery, of Turin, etc. San Francisco: H. H. Bancroft & Co. 1867. 12mo., pp. 209.

DR. WOOSTER tells us that heart disease is of alarming frequency in California, and he very rationally attributes this excess of cardiac disorders to the moral and physical excitements of a population restless in their pursuit of wealth, subject to great vicissitudes of fortune, very intemperate, and usually overworked in body and brain. Seventeen years of observation having satisfied him of the importance of this class of diseases, and of the general ignorance of his brother practitioners, both as to their diagnosis and treatment, he has thought it would be in order to give them a manual which would do them no harm, and might benefit their patients. Hence the little volume before us, which contains nothing new, and nothing bad—no small praise—and which has our best prayers and wishes for the good end it meditates.

J. D. B.

Mémoire sur L'Epidémie de Fièvre Jaune, qui a regné a la Nouvelle Orléans et dans les Campagnes, pendant l'année 1867: Par CHS. DELERY, D. M. P.

A Dissertation upon the Epidemic of Yellow Fever which prevailed at New Orleans and in the Country during 1867: By CHAS. DELERY, D. M. P. Pamphlet, pp. 123, New Orleans, 1868.

ANYTHING calculated to extend our knowledge of the scourge which has so recently afflicted us, or to place its facts upon re-

cord, merits the attention of practitioners throughout the Southwest. This little treatise bears the marks of considerable research and of great candor in the conclusions formed by its author.

The points examined are thus enumerated:

(1) Yellow fever among Creoles of the city.
(2) Use of quinine as a criterion.
(3) Inquiry as to its endemic nature.
(4) Yellow fever in the country.
(5) Acclimatization.
(6) Secondary attacks.
(7) Effect of frost.

(1) There has been a prevailing opinion in the community that Creoles of the city were exempt from this malady, by virtue of their nativity. This idea he controverts by arguments: (a) The *epidemic fever* (called *paludo catarrhal* by the partizans of Creole exemption) manifests itself only during epidemics of yellow fever. (b) Creoles acquire their acclimatization by an attack in infancy, or, in rare cases, by a natural exemption. [It is to be remarked that insusceptibility to the fever may be observed in some individuals, not natives, who have lived in the city thirty years.] His conclusion is fortified by the observation and testimony of numbers of his *confrères.*

(2) After quoting the celebrated aphorism of Hippocrates, "*Naturam morborum indicant curationes*," he rests his proof on two syllogisms: (a) "Quinine is a specific for pernicious fever; quinine is at least useless in the [so-called] *epidemic* fever, therefore the *epidemic* fever is not the pernicious fever." (b) "The pernicious fever attacks indiscriminately all ages and nationalities; the *epidemic* fever attacks only the Creole infant and the unacclimated stranger, therefore the *epidemic* fever is not the pernicious fever." He also lays stress on the susceptibility of the negro race to intermittent fever, and their insusceptibility to the prevailing epidemic. [To this, however, there were numerous exceptions]; and on the other hand to the recovery of Creole infants without quinine.

(3) He disproves the introduction of the disease from abroad.

(4) He is decidedly of opinion that yellow fever, whenever epidemic in the city, extends its ravages to the surrounding country. The numerous authorities noted in support of this conclusion he thinks could neither be mistaken nor have conspired against the truth.

(5) He recognizes three forms of acclimatization: that gained by an attack of the fever, the only sure one; that by exemption, *uncertain;* and late acclimation, by an attack, after passing unscathed through previous epidemics.

(6) Secondary attacks he considers exceptional, but their reality to be established by incontestable observations. [There is good reason to believe that they were more frequent during the late epidemicthan ever before.]

(7) The popular belief that a *white* frost puts an end to the epidemic, he considers erroneous, and his opinion is certainly borne out by the facts of last year. This point is of special importance to absentees desirous of returning to their homes in the city at the earliest safe moment.

The addition of several statistical tables gives increased value to Dr. Deléry's work, for future reference. One table exhibits the names, ages, sexes and color of 306 natives of the city, who were victims of the epidemic. Another similar table gives a list of persons born since the epidemic of 1858, who died between July 7 and November 7, 1867, of fevers called *paludal*, *congestive*, *paludo-hemorrhagic*, *paludo-choleric*, and *pernicious*, numbering 124. In view of the recognized control of quinine over the above named forms of fever, the author apprehends errors in the diagnosis of these cases; and, indeed, it may well be questioned whether the quinine treatment might not have increased the mortality.

Other tables gives the rainfall, the temperature and the direction of the winds for each day during the warm months, from which it appears that no conclusions can be deduced from the meteorological phenomena.

On the whole, we regard this pamphlet as a valuable contribution to our fever literature, not only as regards the history of the late epidemic, but especially as tending to correct the popular error of Creole exemption.

It is to be noticed that, with a single exception, the medical gentlemen, to whom frequent reference is made, have French names, with the affix "D. M. P." The distinguished consideration and praise bestowed them may be a rhetorical trait of the language in which the work is written, but in English they would indicate the existence of an Association for the Practice of Mutual Admiration.

EDITORIAL AND MISCELLANEOUS.

Professional Charlatanism.

A late number of the Leavenworth Medical Herald, contains a very wholesome reproof of a practice which has become disgustingly common, and which it styles "Puffing of Doctors by the Newspapers." It is true, then, that the doctors out on the verge of civilization, are fully imbued with the progressive spirit of this fast age, and are determined not to hide their light under a bushel. We have, for some time, been under the pleasing impression that our city enjoyed a preëminence in this kind of literature, and have been enjoying a sort of pride in the possession of a choice

collection of gems representing aspirants for medical fame both in the profession and out of it. The prevailing style in this locality is a card of thanks for skillful services rendered, generally in surgical practice; but sometimes it comes under the head of local news. It is presumed that honest people will never suspect that the doctor had any agency, or even premonition, in the honor bestowed on him, and this may be true of those unsophisticated persons who have not learned how public testimonials, bridal presents, etc., are managed by the knowing ones.

There are, indeed, multitudes of good people who regard notoriety as the true standard of merit, both in a physician and a preacher, and in both cases consult the daily newspaper as an oracle. Those who are naturally fond of the marvellous are easily satisfied, and are sure to find what they are looking for, a new sensation. No matter how trivial the case, whether the expulsion of a tape-worm or the ligation of the radial artery, if judiciously managed, it may be made a subject of wonder and admiration for the simple folk; just as, at the present time, the nation goes crazy over one man's performance of an art taught in every school in the land.

It is to be observed that we are now speaking of regular members of the profession, and not of those outside its pale. It is not worth while to speak of the legion of quacks; they stand in the same relation to the profession as the *demi-monde* to our wives and daughters, and both must be tolerated because they cannot be suppressed. But when one of our own number resorts to the same artifices, we feel a pang like that which would wound us were one of the bright ornaments of our cherished social circle to go astray.

It appears from a paragraph in one of our exchanges, that the Charity Hospital Medical College, at Cleveland, rejoices in a reporter for the daily press who is certain to give that institution a wide notoriety in the publicity of such cases as sarcocele, "opthalmia," strabismus, "lupus vulgaris," phlegmasia dolens, rhinoplasty, etc. This is certainly a step in advance of our medical schools here, and one which we think they can afford to forego.

But, seriously speaking, medical ethics, like social morals and politics, seem to have become greatly debauched during the late sectional strife, whose sour grapes we now are eating to set our children's teeth on edge. The remedy for this is in the hands of the medical body, and especially of the older members. It simply implies the enforcement of the code of ethics of the American Medical Association, of which no one can plead ignorance, nor any one disregard its requirements who acknowledges himself bound by a moral obligation.

To Subscribers.

In our prospectus of the *New Orleans Journal of Medicine*, our

terms were announced so as to admit of payment in advance, at the end of six months, and at the end of the year, the amounts being respectively, six, eight, and ten dollars. This arrangement, after a fair trial, has been found to be attended with so many inconveniences as to call for an entire change, therefore from this date, our terms will be invariably six ($6.00) per annum, in advance. With no disposition to be continually dunning, and not unwilling to await a reasonable time for remittances at present, in view of the extreme scarcity of money in the country, we hope this reminder will be sufficient.

We again call upon those subscribers who have received incorrect accounts to aid us in their rectification;—we wish no one to pay us what he considers unjustly due, and shall therefore cheerfully make any corrections which may be called for.

From the few subscribers of the two former Journals, who, as yet have remained silent, we would ask at least the courtesy of a line, in order that some correct estimate may be made with regard to the required issue. All parties not responding to this request will cease, after this issue, to receive the Journal.

As the rapid increase of subscribers has very materially added to the labors of correspondence, hereafter all receipts will be acknowledged through the columns of the Journal. Through this medium also will be answered all questions upon strictly medical subjects.

As the issue for January is nearly exhausted, we would be pleased to receive any copy of it from such of our subscribers as do not wish to retain a complete file, due credit being given on the present or next volume as may be desired.

To the inquiries concerning vaccine matter, we would answer, that fresh and reliable matter can be obtained from Dr. D. W. Brickell, [vide advertisement] at $10 per crust. So many requests are made for us to furnish it that we find it impossible to procure a sufficient supply without making it a special business.

Attention is called to the advertisement of Messrs. Lindsay & Blakiston, of Philadelphia, with whom arrangements have been made to supply subscribers, through this office, with medical books at publishers prices, free of postage and express charges, provided the necessary amount be remitted.

Our thanks are due to Messrs. Ball, Lyons & Co., druggists, for specimens of the following very excellent preparations from the laboratory of Messrs. Gehé & Co., Dresden: Citrate of iron, pyrophosphate of iron and soda, and pyrophosphate of iron with citrate of ammonia.

We had hoped to have paid the founders of the New Orleans Medical Association, the more substantial compliment of placing before our readers, in this issue, the summary of their deliberations in their first two meetings, but, unfortunately, want of space compels us to confine ourselves to such congratulations as may be

contained in a short editorial notice, reserving, for a future time, a more extended one; although our readers may see, by reference to our original department, that, to some extent, we have taken advantage of these deliberations, and we are certain that in future we will be enabled to add a department of transactions of the Association to the Journal which cannot fail to compare favorably with any other department in interest to our subscribers. At present we can do no more than furnish a short review of the history of the establishment of the society and call upon our country friends to imitate the example of the Profession of this city, in placing the profession upon such a basis, by free intercourse, that our disagreements may cease to be among the laity a bye-word; the first great step is made in this direction when we know each other.

The New Orleans Medical Association was, after several ineffectual attempts, at last thoroughly organized in December, 1867, by the adoption of a constitution and by-laws, and the election of the following officers:

Dr. D. Warren Brickell, President;
Dr. Trudeau, Vice President;
Dr. Tureau, Treasurer;
Dr. G. W. Dirmeyer, Recording Secretary;
Dr. J. Dickson Bruns, Corresponding Secretary;

and a council composed of these officers and four members, in whose hands is to be placed all the financial and business matters of the Association.

Commencing with about forty members it has rapidly increased in numbers, until at present it contains upon its rolls the names of ninety or more of the city profession. Before closing we would call attention of our subscribers, as well worthy of imitation, to the happy combination, in this Association, of the social with the scientific. Whilst one meeting is held on the first Wednesday of each month for the purpose of purely scientific discussions, the rooms are opened each day from 10 A. M. to 10 P. M.; and at the same time that the mind finds food in the various domestic and foreign journals, books, daily papers, etc., the body need not be neglected. In the name of the Association we take the liberty of extending to our professional brethren in the country a most cordial invitation to visit the rooms, No. 9 Carondelet street, whenever in the city. Tickets of invitation can at any time be obtained at this office.

Books and Pamphlets Received.

Treatise on the Diseases of the Eye, including the Anatomy of that Organ: by Carl Stellwag Von Carion, Prof. of Ophthal-

mology in the Imperial Royal University of Vienna. Translated from the third German edition and edited by Chas. E. Hackley, M. D., etc., and D. B. St. John Roosa, M. D., etc., with appendix by the editors. Illustrated by 91 wood engravings and 18 chromo lithographs, 774 pages, 1868: Wm. Wood & Co., New York; Jas. Gresham, New Orleans.

We regret that want of time should prevent us, in the present number, from giving this really excellent work such notice as it deserves; at some future day we promise to review it.

Obstetric Clinic; a practical contribution to the study of Obstetrics and the Diseases of Women and children: By Geo. T. Elliott, A. M., M. D., etc. New York, D. Appleton & Co., 1868; New Orleans, Jas. Gresham.

Chronic Diseases of the Larynx, with Special Reference to Larynyoscopic Diagnosis and Local Therapeutics: by Dr. Adelbert Tobold, Lecturer Univ. Berlin. Translated and edited by G. M. Beard, A. M., M. D. etc., 279 pages, 1868: Wm. Wood & Co., New York; Jas. Gresham, New Orleans.

The Treatment of Diseases of the Throat and Lungs by Inhalations: by Emile Siegle, M. D. Translated from second German edition by S. Nickles, M. D., 136 pages, 1868: R. W. Carroll & Co., Cincinnati, Ohio. From author.

Diseases of the Heart; their Diagnosis and Treatment: by David Wooster, M. D., etc., 212 pages; 1868: H. H. Brancroft & Co., San Francisco, and 113 William street, N. Y., from publishers.

Plastics; a new Classification and brief Exposition of Plastic Surgery: by David Prince, M. D., 94 pages, 1868. Lindsay & Blakiston, Phila. From publishers.

Seventeenth Anniversary Meeting of the Illinois State Medical Society. Held in Springfield, June 4 and 5, 1867, 212 pages.

Annual Mortuary Report of Board of Health, City of New Orleans. From Dr. Dirmeyer, Secretary of Board.

Pocketing the Pedicle; a New and Successful Method of Treating the Ovarian Stump after Excision: by Prof. Horatio R. Storer, M. D., of Boston. From author.

Annual Circular and Catalogue of the Long Island College Hospital, Brooklyn, N. Y.; Session, 1868.

Annual Report of the Surgeon General, U. S. A., 1867.

Annual Report of the Officers of the Alabama Insane Hospital at Tuskaloosa, for year 1867.

How far do the facts accompanying the prevalence of Epidemic Cholera in Chicago, during the summer and autumn of 1866, throw light on the Etiology of that Disease? By N. S. Davis, M. D., Prof. of Principles and Practice, Chicago, Ill. From Author.

Address before Phil. County Medical Society, January 23, 1867: by Wm. Maybury, M. D., 1867. From author.

Report presented to the Ninth Annual Meeting of the New Sydenham Society held at Dublin, Aug. 10, 1867; with list of works published and other information. From Dr. Richard J. Dunglison, Hon. Local Secretary, Philadelphia

Forty-Second Annual Report of the Massachusetts Charitable Eye and Ear Infirmary for 1867.

Through Brig. Gen. McParlin, Medical Director, from the Surgeon General, Catalogue Army Medical Museum; Surgical, Medical, and Microscopical.

List of Exchanges.

London Lancet, London Medical Times and Gazette; Medical Press—Dublin; Medical Quarterly—Dublin; Ophthalmic Review—London; British Medical Journal—London; L'Evénement Médical, L'Union Médicale, Gazette des Hopitaux—Paris; Gazette Médicale de Paris, Archives Générales de Médecine, Journal de Médecine et de Chirurgie Pratiques, Journal de Chimie Médicale, Répertoire Pharmaceutique, Bouchardet, France Médicale, Gazette Mèdicale de l'Algérie. Gazette Hebdomadaire, Annales d'Hygiène, chez J. B. Baillière; Journal d'Anatomie; Canada Medical Journal; Richmond Medical and Surgical Journal; Buffalo Medical and Surgical Journal; Galveston Medical Journal; Boston Medical and Surgical Journal; Medical and Surgical Reporter—Philadelphia; Western Journal of Medicine, Indianapolis, Ind.; Detroit Review of Medicine and Pharmacy; New York Medical Journal; Atlanta Medical and Surgical Journal; American Journal Medical Sciences; Medical News and Library; Chicago Medical Examiner; Cincinnati Lancet and Observer; St. Louis Medical and Surgical Journal; Medical Record—New York; Braithwaite's Retrospect; Chicago Medical Journal; Pacific Medical and Surgical Journal; Medical Reporter—St. Louis, Mo.; Southern Medical and Surgical Journal—Augusta, Ga.; American Journal of Pharmacy—Philadelphia, Pa.; Dental Cosmos; American Journal of Insanity; Journal of Materia Medica, New Lebanon; Nashville Journal Medicine and Surgery; Druggists' Circular and Chemical Gazette—New York; Medical and Surgical Pioneer—Kansas City; College Physicians—Philadelphia, Penn.; American Naturalist, Salem, Mass.; American Journal Dental Science—Baltimore, Md.; Quarterly Journal Physcological Medicine—New York; Texas Medical Journal; Leavenworth Medical Herald; Rankin's Abstract, American republication; Humboldt Medical Archives—St. Louis, Mo.; Chemical News—New York; the Medical Gazette—New York; American Medical Association [transactions]; Biennial Retrospect Medicine and Surgery; Half-Yearly Compendium; Am. Journal Sciences and Arts; Michigan University Magazine; De Bow's Review; Dental Register—Cincinnati, O.

THE

NEW ORLEANS

JOURNAL OF MEDICINE.

JULY, 1868.

ORIGINAL COMMUNICATIONS.

ART. I.—*A Case of Softening of the Brain—Death—Post-mortem.* Read Before the Medical Society of Montgomery, September, 1866: By J. S. WEATHERLY, M. D., Montgomery, Ala.

I was requested to-day (June 10th, 1866), to call and see Mrs. E—— L——. She is an old patient, I having been her physician for the last eight of nine years. She is the mother of three children—two living and one dead, the youngest ten months old; is twenty-six or seven years old; of bilio-sanguine temperament; has always been rather sluggish in her movements; as she remarked herself, "my husband and mother call me lazy." She has been remarkably healthy since her marriage, recovering rapidly from her confinements, and, up to this time, has never had a serious attack of sickness.

I find her to-day suffering from nausea and vomiting, which seems to be an ordinary attack of cholera morbus from imprudent eating, the night previous. The ordinary remedies for such an attack were prescribed, and on the eleventh she was dismissed, as I thought, well. I heard nothing more from her until July the 5th, when I was asked to see her again. I find her complaining of nausea and *slight headache*, which she says has been *constant* since her *first attack*, (June 10th). Her bowels are rather constipated, skin cool and pleasant, pulse natural. She says that

she has been eating imprudently again. Prescribed soda and mint water and iced soda water.

July 6th.—About the same; still has slight headache and nausea. Ordered pill of blue mass and colocynth, to be followed by seidlitz powders next morning.

7th.—Bowels had acted freely, producing no change in her symptoms. There was no change in her symptoms until the 11th. There being no positive indications for medicine, I have given her none. She sits up most of the time, seeming rather dull; has but little to say. On making my visit late in the afternoon of the 9th found that my patient had gone out visiting; she, however, came in soon afterwards. She says that her head is still aching, not *severely*, but constantly; she has no nausea now and but little appetite.

July 10th, 7 P. M.—Found her out visiting again. Came in soon after, and said her head was aching badly, and that her sleep had been much disturbed on the previous night; that she imagined she was sleeping at a neighbor's house, and that it was difficult to convince her such was not really the case. I began now to fear serious brain trouble, prescribed twenty grains of calomel, and ordered a blister to the back of the neck.

12th, 9 A. M.—Passed a restless night; still has headache; imagined that she slept from home again last night. Vomited once this morning after taking a seidlitz powder. Bowels had acted, but not freely. Ordered another seidlitz powder. Blister had drawn well.

Eight P. M.—Says that she feels well; pulse, sixty; skin natural. She is very sleepy; looks as if she had taken a large opiate. Answers in monosyllables. I was now thoroughly alarmed, feeling satisfied that some serious change was going on in the brain. Ordered mustard to extremities, and iodide of potassium internally.

13th, 8 A. M.—Very stupid all night; still sleeping, but easily aroused, answering any questions *correctly*, but immediatey going to sleep again. Pulse, fifty; pupils dilated, but sensible to light; eyes a little suffused. I came to the conclusion, this morning, that she was suffering from white softening of the brain. Twelve M.—More stupid; pulse forty-six. Ordered blisters to temples.

Dr. Baldwin saw her with me at one o'clock. We were both somewhat puzzled at her condition. The Doctor thought, or rather hoped, that it might be some obscure nervous affection, but feared serious brain trouble. We agreed to give her two grains of calomel every four hours, and continue counter-irritants. Seven and nine P. M.—Very little change; not quite so stupid: more easily aroused; pulse, fifty.

14th.—Very sleepy all day; pulse ranging from forty to fifty; skin cool; pupils dilated; extremities inclined to be too cool. Dr. Baldwin and myself now came to the conclusion that it was a case either of white softening, tumor, or abscess of the brain, and of course gave a very unfavorable prognosis. I saw her frequently to-day; sometimes she could be aroused, opening her eyes for a moment, at other times she could not be aroused at all, having the appearance of one in a most profound sleep, looking naturally and breathing tranquilly. Respiration sixteen per minute.

Prescribed iodide of potassium, and Fl. extract valarian every four hours.

15th. eight A. M.—Pulse one hundred and twenty, very feeble. (This was more than double what it had been previously.) Her face is flushed but not hot; she is awake and says that she feels very well.

This sudden change in her condition was certainly unlooked for, and we were as much puzzled as ever, but thought that the change in her condition might be due to the mercurial. She talks very well to-day, but says that her head still aches. Discontinued mercury. Continued iodide of potassium and ordered beef-tea and milk. She is pretty easily aroused, but thinks herself not at home.

16th.—Pulse one hundred and twenty-six At times very hard to arouse, at others awaking very easily. At eight A. M. is awake, says that she knows I have seen her every day but has no recollection of seeing Dr. Baldwin. Says that she was never in this part of town before, and does not know who lives next door. When the name of the gentleman occupying the next house was mentioned, says that it is a mistake that he lives down by their house. Pulse very feeble, continue nourishment.

17th, eight A. M.—Says that she feels first rate, and that she knows she is at home; rather lively and disposed to talk; she had taken one teaspoonful of brandy, but objected to taking any more, saying that it made her head worse. Pulse one hundred and twenty, but very feeble. Five P. M.—Has had two or three profound sleepy spells to-day, at which times she could not be aroused at all, but would awake after a while, without any effort having been made to arouse her.

18th, 8 A. M.—Looks very well, but says that her head is still aching. Pulse, 110, fuller. Has some nausea with vomiting this morning. She slept very profoundly last night; at times could not be aroused. Reapply blisters to temples.

19th.—She is about the same in every respect. Still complains of head.

20th, 9. A. M.—Pulse, one hundred and twenty; some nausea, tongue coated with thick, brown fur, moist; bowels had not acted for a day or two. A pill of blue mass and colocynth to be taken at nine P. M.

21st, 9 A. M.—Pulse, one hundred, and fuller. Did not sleep much last night; says that her head feels better. Was more easily aroused when sleeping; bowels had acted.

22d, 9 A. M.—Pulse, eighty; has slept hard all night. It is very difficult to arouse her this morning. She pulls at her nose, and rubs her mouth, as if she had taken opium. In fact, she looks (with the exception of dilated pupils) as if she was under the full influence of opium. Six, P. M.—Pulse eighty, can be aroused, but soon relapses into sleep again.

Her apparent improvement for the last four days, had rather unsettled my opinion in regard to the condition of the brain, but now I think there is no doubt of white softening, attended probably with an abscess or tumor.

23d, 9, A. M.—Slept hard all night; could be aroused with great difficulty. More easily aroused this morning. Says that her head does not ache. Fans the flies off her face, but keeps her eyes shut. Answers very slowly; in fact, during her whole sickness, she has drawled her words out. Pulse, seventy, and feeble. Dr. Baldwin fully concurs with me in my diagnosis.

Nine, P. M.—More drowsy, difficulty in swallowing; involuntary

discharges of urine. Approaching deep coma. Right pupil more dilated than left.

24th, 8 A. M.—Profound coma. Tried to arouse her with galvanic battery. Seems to feel pain but is not aroused. Ten, P. M. Left arm and leg paralyzed.

25th, 9 A. M.—Pulse one hundred and thirty; tongue seems to be paralyzed; coma complete. She died at eleven P. M.

Post-mortem, twelve hours after death, performed by Drs. Seelye, Holt and Gaston. On removing the calvarium, nothing unusual was observed about the meninges. On passing the finger over the external surface of the brain a soft place was felt over the anterior portion of the right lobe. On the removal of the meninges, a dark spot was observed upon the exterior portion of right lobe corresponding with soft place felt previous to the removal of the meninges. I suppose a teaspoonful of dark grumous blood was scraped off with the handle of the scalpel from the surface of the brain, or at least from where the brain once was. A section was then made through the anterior lobe, and a large mass, size of a hen's egg, turned off from the surface of the brain; it did not seem to have any attachment to the brain tissue. A considerable clot (not very firm) was in the centre of this mass, surrounded by a quantity of what seemed to be partially organized material. The whole mass was also enveloped with clotted blood. This clot or mass extended back to within two or three lines of the right lateral ventricle. Nothing unusual in the ventricle. Around this mass, the brain substance was of a soft, yellowish creamy appearance, almost broken down in some places. Radiating from the bed of this mass, the yellow color gradually faded to white, and the softening became less defined. More than half of the whole hemisphere was, however, softened. One other small clot was observed just posterior to the ventricle. Nearly the whole of the left anterior lobe was also softened; but not to such an extent as the right lobe; a clot was observed upon the interior portion of the left lobe in front and above the comissure nearly as large as a hen's egg. It was soft and seemed to be of recent formation. At least half of this lobe had undergone softening. There was a slight effusion of bloody serum in the left ventricle. The cerebellum seemed to be healthy.

On examining the mass taken from the surface of the right lobe under the microscope, Dr. Holt thought that he discovered cancer cells, but the light was so bad that the microscopic examination was very unsatisfactory. I am inclined to think it was an old effusion through the softened brain tissue, with some attempt at organization. The tough material enveloping the mass seemed to be thickened pia-mater. The greater portion of this mass was washed away from the thickened membrane, and seemed to be nothing but clotted blood.

This case impressed me us one of unusual interest. When I first saw the patient on the afternoon of the 10th June, she had no symptoms except those of an ordinary attack of cholera morbus, she did not even complain of her head at that visit. The next day she was apparently convalescent and was dismissed. I did not see her again until July fifth; she then stated, that she had headache and sick stomach, but referred more particularly to the nausea, at the same time stating that the headache had been constant, since first attack. Although I saw her every day, I did not become alarmed about her condition until the tenth, when I called and found her out visiting. Still her symptoms were so slight, I was loth to believe that she was suffering from any serious brain trouble, until the afternoon of the 11th; when I again found her up and out visiting; but when she told me that her head still ached, and that she imagined she had not slept at home for the two previous nights, I began to feel certain that there was some serious organic disease of the brain.

As I stated above, I had been her physician for the last nine years; and though always a little disposed to complain, she was never positively sick, except at her confinements, when she recovered rapidly and with less trouble than most women. When I asked my friend, Dr. Baldwin, to see her with me, I told him that I was very much puzzled in regard to her case, but my impression was, that it was a case of white softening of the brain. When she apparently improved for a few days, we were both somewhat at a loss to account for her symptoms, not seeing how she could improve if we were correct in supposing that her symptoms were

from softening, or even abscess, or tumor; for we felt sure that one of the three existed. I am satisfied now, that the apparent improvement, was owing to a partial recovery from the effects of hæmorrhage, around the mass described, in the right hemisphere, that the immediate cause of death was the effusion into the left lobe, that the first disease was white softening of the brain, and that the apparent tumor upon the right lobe, and the effusion upon the left lobe, were oozings of blood through the softened brain tissue. Jones and Seiveking describe white softening of the brain as "loss of cohesions, varying in degree and non-inflammatory." They also speak of cysts occurring in the brain, the result of effusion. "These are firm and thick, and frequently contain serum," resembling in some degree the mass described in in the above case, as occupying right lobe. DaCosta in his medical diagnosis, says, "that there are in truth no pathognomonic symptoms, the presence of which would enable us to declare without hesitation, that we are dealing with softening of the brain, or the absence of which, would justify us in concluding that it does not exist." He enumerates the symptoms as a "gradual impairment of intelligence, weakening of memory, headache, vertigo, muscular debility, cutaneous hyperæsthesia, or anæsthesia, formication, numbness, and slight facial palsies, particularly of the muscles of one side of the mouth, or of the eyelids; and also not unfrequently defective articulation, with great irritability of temper, nausea, vomiting, etc. etc."

He also states that we differentiate softening by noticing, that the headache caused by a tumor is much more violent and paroxysmal, not dull or of a strict intensity. Remissions or intervals of apparent improvement. occur in both morbid states, but they are more perfect and of longer duration in tumors than softening. In this case the pain was never entirely absent, but it was not severe nor of a neuralgic character. Even when it was thought that the patient was better, she always said that her head still ached.

Andral is very full and explicit upon this disease. He is satisfied that it is a disease sui generis, and non-inflammatory in its character. He says, "I do not think, for instance, with M. Lallemand, that a sanguinous congestion always preceded softening of

the brain. In some cases the first appreciable lesion consists even in diminution of the consistence of the nervous pulp." And this diminution of consistence may constitute the only alteration. Farther on he says, "softening of the brain does not necessarily commence by hyperæmia; it is not necessarily complicated during its course, even with sanguineous congestion. Neither does it necessarily lead to suppuration. It exists as a lesion independent of any other lesions." Again he says that "it may come on in the midst of perfect health."

In speaking of the symptoms he says, "the state of the intellect, is far from being always the same; in some cases it preserves all its *integrity*. At other times the intellectual faculties are completely abolished from the commencement of the disease. In other cases the intellect never entirely disappears, undergoing a perceptible weakening, which continues to the last. The persons thus circumstanced, have, as it were, a stupid air. Their answers are slow and uncertain. They have but little memory. Have but few wants. They appear sunk in a sort of idiotism, or state of infancy. Some present a state of almost continual somnolence. In some, this drowsiness is the prevailing phenomenon during the entire course of the disease."

I might go on and enumerate what different authors say upon this subject, but I think I have quoted quite enough, to show the importance, and at the same time the difficulty of arriving at a correct diagnosis previous to death. Fortunately it makes little difference as to the result. The only diseases likely to be confounded with it are tumors or abscesses. The result is the same in all.

The chief point of interest in the above case is the extensive disease of the brain, and the absence of any very severe symptoms up to the last few days of life. The stupor and pain were the only prominent symptoms, and the pain was never severe. The patient had but few wants, scarcely ever asking for anything. Up to the supervention of complete coma, her intellect was comparatively clear, and when awake she almost always answered questions rationally.

ART. II.—*A Case of Hydrocephalus in Utero:* By S. F. STARLEY, M. D., of Fairfield, Texas.

THE following report of a case of hydrocephalus in utero, is offered, not because of anything peculiarly interesting in it, but on account of the exceedingly small number of such cases met with in practice. So few, indeed, that Madame La Chapelle, observed only fifteen cases in forty three thousand five hundred and fifty-five labors.

I was called on the night of the 20th of September, 1867, to a woman who had been in labor for about forty-eight hours with her fifth child. She had been seemingly in good health, and nothing unusual had occurred in any of her previous confinements. In this instance a midwife was in attendance and did not suspect that anything was "wrong" until the labor pains had ceased for several hours, when it was decided to send for me.

I found the woman restless and feverish, with a total suspension of uterine contraction. The os uteri was fully dilated, but the child's head, which was the presenting part, remained entirely above the superior strait. It felt soft and yielding, but was so enormously large that it could not engage in the pelvis. As the patient was already exhausted from protracted and ineffectual uterine contractions, I determined to deliver by craniotomy, instead of merely puncturing the head and drawing off the fluid. Accordingly I opened the head with the perforator, when a large quantity of fluid (not less than a gallon) flowed off. The cerebral mass was then broken up, and with the crotchet fixed upon the occipital bone, the delivery was effected without difficulty. The uterus did not contract, until the delivery of the child was nearly completed. There was then, however contraction enough to detach the placenta which was readily removed. No hæmorrhage followed, and, notwithstanding her extreme exhaustion, she rallied and made a good recovery.

Such cases show in a striking manner the folly of employing ignorant persons to attend obstetrical cases. Had this patient been seen by an intelligent physician before she was so completely exhausted, a trocar and canula would have been all the instruments needed, and the great risk she ran of losing her life would have been wholly avoided.

ART. III.—*Case of Symptomatic Gangrene:* By Dr. LEONARD RANDAL, Grimes County, Texas.

THE subject was a lad, about fourteen years of age, and of rather phlegmatic temperament, whose history for several months previous to his immediate attack (which was about the first of April), I obtained from his father and mother. The winter immediately preceding the attack, the lad appeared to be in ill health; appetite variable, had the appearance of cachexy, from which he would sometimes partially recover, but relapse again, until sometime about the first of March when he grew worse, had great indisposition to exercise, which would bring about palpitation of the heart, together with dyspnœa, had very little appetite, and head-ache.

His father now gave him a cathartic preparation, composed of equal parts of calomel, aloes, and rhubarb, which operated well, but did not give him any relief, the pain in his head appeared rather to grow worse; a second cathartic of the same kind was given; the stools from this were copious and watery, and prostrated him very much; the pains in his head increased, and occasionally they would run down the spinal column, and then suddenly subside. His father becoming uneasy about him, called to see me to get my opinion.

Supposing that the medicine already given had been too drastic, and finding his tongue coated, I directed about three grains of calomel, with one-third of a grain of opium every two hours, to be continued until twelve grains of calomel had been given, and then to follow in three or four hours with a portion of castor oil. This treatment gave him no relief; the paroxysms of pain recurred at irregular periods, increasing in severity, and occasionally running down his back to his hips. A messenger was now dispatched to request me to visit him, a distance of eighteen miles. Soon after the messenger started, a violent paroxysm of pain recurred in his head, ran down his back, and passed along the nerves of the left lower extremity. The pain seemed to locate in the leg, and its intensity was such as to elicit frantic cries. Upon the cessation of this paroxysm, the pain was mostly felt in the leg and foot, and continued, his father said, about three hours, when it became less severe, locating itself in the knee. When I arrived, I found the lad comparatively quiet. He had a

disposition to sleep, but his nervous system generally, was in such an exalted state of irritability, that he would cry out from the slightest motion given to the floor by walking on it.

The least movement on his part would give him severe pain, which was now confined altogether to the knee. Upon examination, I found his leg cold, painless, and without any signs of life whatever, from the knee down. Gentle, dry friction was used, and at the same time warm rocks were applied, after which his leg was wrapped in warm flannel and the warm rocks placed around it. The treatment was continued for several hours, but with no perceptible return of warmth in the leg, which now presented a purple color; his pulse was feeble and frequent. I now thought proper to prescribe stimulants, which were used together with the decoction of bark acidulated with sulphuric acid. In a short time his pulse became more normal and he was easier, but could not bear the slightest motion of the floor without complaining of pain.

I was now compelled to leave; but before doing so, ordered nourishing diet and a continuance of the decoction and wine. On returning to see him the second day, I found his leg in a partial state of decomposition, his general condition but little improved, pain still excruciating upon the slightest motion of the floor, so great indeed that we raised the bedstead about four inches from the floor by suspending cords from the joists; but still he would complain when one would walk carelessly upon the floor. The line of separation between the living and dead tissues was now plainly marked, passing over the middle of the patella in nearly a direct line around the knee. I ordered the wine and decoction to be continued, but in larger portions, the former which he relished well, to be administered liberally; his appetite appears better.

On returning on the fourth day, I found his general condition much improved; the separation of the living, from the dead tissue, was now complete over the patella, the leg from the knee down being generally in a state of decomposition, the thigh above the knee however, for some distance up being shrunken, and smaller than its fellow, but the skin apparently healthy. I now concluded to amputate, and proceeded to make the operation, selecting the

slope operation, bringing the knife out about an inch above the line of separation; after the cut had been made, on looking for the femoral artery I failed to find it, but in its stead found a cavity which, by digital examination, proved to be about an inch in depth. I now loosed the tourniquet, and was surprised to see no jet of blood from any artery. Allowing the tourniquet to remain loose, I gave him some brandy, and waited a few minutes, when jets of blood from two small arteries appeared, the streams not being larger than a common-sized knitting needle; these arteries I secured, and waited a few minutes longer for another arterial hæmorrhage, but failed to notice any. I now dressed the stump and left the tourniquet loose on the thigh, with directions to tighten it if there should be any appearance of hæmorrhage, directing at the same time that he should take tinct. ferri. mur. gtt. xv, three times daily, continuing also the liberal use of the wine; and, to keep the stump cool, water dressing was ordered if it should become hot and feverish.

Returning on the fourth day, I found that there had been no hæmorrhage, nor had the cold water been used. On examination I now found a regular leaking of a watery fluid from the stump to such an extent as to saturate clothing and bedding; his general condition had improved but little. Upon removing the dressing I found the bone projecting about an inch, and the stump shrunken and tapered almost to a point and still leaking a watery fluid as before. The lips of the wound had united above and below, leaving a space through which the bone was projecting nearly an inch.

I left him, directing his nurse to continue the free use of the wine and acid, intending to return on the fourth day, when I expected to be obliged to take off the projecting bone, but upon examination when I returned, I found his condition much improved, appetite good, and granulations putting out freely, on the bone and flesh surrounding it. Every thing now seemed favorable for his speedy recovery; he as well as the family, remonstrated against taking off the projecting bone, and I yielded to their request and left it to nature to manage.

I now left him in the care of the family with directions to

diminish the portions of tinct. ferri. mur. for a few days, and then discontinue it altogether.

He continued to improve so as to give his friends a lively hope of his speedy recovery. This state of things went on about ten days, and until the stump had nearly healed; and while in this apparently favorable condition, and without any premonitory symptoms perceptible, the pain recurred in his head with great violence, running down his back as before, and passing along the nerves of right lower extremities, and before they could make ready to dispatch a messenger for me death put an end to his suffering.

I present this case to the medical profession without comment as to the cause or nature of the disease.

ART. IV.—*A Case of Puerperal Convulsions;* Read before the Greensboro Medical Society at its meeting on the 13th April, 1868: By T. C. OSBORN, M. D.

AT eleven o'clock P. M., on the 28th ult., I administered half a grain of sulphate of morphia hypodermically, in a case of *eclampsia primiparturientis*, and ten minutes afterwards, had the happiness of witnessing the prompt delivery of a living male child, a decided abatement in the violence of the convulsions, and a satisfactory assurance of the immediate safety of the mother.

The woman, a stout healthy negress, seventeen years of age, was taken in labor at noon on this day, and, one hour later, spasms of a marked violence set in, loading the bronchia with noisy phlegm, hurrying the respiration, quickening the pulse, annihilating mental faculties, distorting the features, and drawing the body into rigid opisthotonos.

There had been no complaint of premonitory symptoms; the rectum was empty, nor could any satisfactory cause be assigned for such a fearful interruption in the healthy progress of the labor.

Dr. J. D. Osborn, the attending physician visited her at seven o'clock, and found the membranes entire, a vertex presentation

with ample capacity in the diameters of the pelvis, and the soft parts sufficiently lubricated. These examinations satisfied him that the convulsions were entirely dependent upon an erratic distribution of nervous energy, and that the delivery of the child would effectually remedy the eclampsia; and he proceeded at once to rupture the membranes, expecting confidently that the descent of the child would speedily follow. But his hopes were doomed to disappointment. The head apparently descended only in proportion to the displaced waters, and although there were regular recurrences of uterine contraction, the efforts were far too feeble to expel the unresisting contents of the womb.

The Doctor now began the use of chloroform to control the convulsive phenomena, and in a short time the spasmodic action was limited to the respiratory muscles alone, but the contractions of the uterus were not increased either in strength or frequency, as he had anticipated, and hence his call for consulting assistance. Owing to his deference to my teaching, he had steadily and courageously resisted the temptation to bleed the patient, although encouraged to do so, as well from the *apparent* urgency of the case, as from the unqualified authority given by all the text-books.

I saw her at ten o'clock. The position of the child in the inferior strait, and the condition of the mother, were the same as he had noted them three hours before, only that the evidence of the convulsions had materially abated, under the influence of the chloroform, cupping the temples, rubifacients, and pediluvia.

Upon a careful examination per vaginam, I could easily circumscribe the head of the child, and, to a limited extent, move it from side to side, so that any idea of impaction was entirely out of the question. It was a beautiful case for the forceps, and a messenger was dispatched for them, but, meantime, it seemed imperatively necessary to be doing something for the relief of the sufferer.

After waiting an hour to assure myself that there was no mistake about the stationary condition of the case, we preceded to insert the opiate under the skin on the arm, and the result was as stated at the beginning of this report.

In something less than five minutes, the effect of the narcotic

was plainly perceptible in its controlling influence on the convulsive respiration, and the uterus was also noticed to be getting rounder and harder under the hand applied over the abdomen. There was but one continued contraction of the womb from this time until its entire contents were forcibly ejected, and its position under the pubis re-established. The hæmorrhage was unimportant, and the convulsions for the first time intermitted, only to return at longer intervals, for some eight or ten hours afterwards, the condition of the patient becoming more and more hopeful every hour of the time. At this date mother and child are both in excellent health.

Remarks.—What then, let me ask, was the cause of this pathological complication; and upon what principle did we dare oppose the authorities in not bleeding the patient?

In replying to the first part of the question, I can only say that, for several years, my convictions have been averse to the theory of congestion of the brain in such cases, and that the true explanation will be found in the nervous character of the disease. On the contrary, I am more and more assured, that the determinative cause of labor rests with the *organic system* of nerves.

That, under the parturient nisus, the cerebro-spinal centres become excessively irritable.

That this irritable condition attracts the energies of the "cerebrum abdominale;" creates a diversion of nervous influence; causes an erratic distribution of nervous power; and establishes, as it were, a motor ataxia.

That congestion of the brain and spinal marrow is preceded by nervous derangement, the remora becoming dangerous only in proportion to the exhaustion of nervous power. If, therefore, opiates in sufficient quantities, all other things being equal, are timely administered, their natural influence being exerted upon the brain, irritation of that system will be promptly allayed, and a proper direction given to the energies that should be spent upon the fibres of the uterus.

Can bleeding ever relieve a congestion thus produced? My observations amount to eight or ten cases at most, and cannot therefore be regarded as conclusive on the subject, but I am painfully impressed with the slight amount of remedial benefit

derived from the cases so treated. It was not, however, until the one just reported, although, my convictions have been settled for several years, that I had sufficient courage to oppose the authority of the schools.

Instances may indeed occur where bleeding is imperatively demanded, and I desire to be understood as only protesting against its indiscriminate application anterior to delivery. After labor has terminated, if there should remain evidences of congestion of the brain, then, doubtless, the loss of an appropriate quantity of blood would be decidedly serviceable.

Chloroform to control the violence of the convulsions is indispensable, and as it is inconvenient, if not impracticable to give medicine by the mouth, the hypodermic method of administration should be regarded as one of the greatest boons in cases of puerperal eclampsia.

ART. V.—*The Inoculability and Contagion of Phthisis Pulmonalis;* From the recent work (1867) of HERARD and CORNIL, *de la Phthisie Pulmonaire.* Translated by STANHOPE P. BRECKINRIDGE, M. D., of Danville, Ky.,

THE question of the inoculability of tubercle, hitherto sketched* rather than seriously studied, has recently taken a decided step forward.

In the Session of the Academy of Medicine, of December 5th, 1865, a learned Fellow of Val de Grace, already known by his remarkable works on the histology of tubercle, M. Villemin, announced that he had succeeded in inoculating some rabbits with

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* Some physicians, among whom we will cite especially Kortum, Lepelletier, Alibert, Guersant and Richeraud, had previously attempted to inoculate tuberculous matter on animals. Lepelletier had attempted inoculation upon himself without success. The oft-cited instance of Laënnec wounding himself in an autopsy of Pott's disease, lacks the necessary information to decide whether or not it was a question of something else rather than of a simple anatomical tubercle.

tuberculous matter taken from consumptives.* Desirous of verifying for ourselves the important fact pointed out by M. Villemin, we submitted to experimentation seven rabbits, aged about six weeks, six of them were placed in a large rectangular box where they could move about and breathe comfortably. The seventh was left at liberty. Upon the latter, as also upon one of the other six, no inoculation was practical. Of the remaining five, three were inoculated exclusively with the matter of gray tuber-

* The unexpected discovery of M. Villemin rests upon three series of experiments skilfully conducted.

First series of experiments.—On the 6th of March, says M. Villemin, we took two young rabbits, about three weeks old, very healthy, still sucking their mother, and living with her in a cage elevated above the ground and properly sheltered. Into one of these rabbits we introduced, through a small subcutaneous wound made behind one ear, two small fragments of tubercle and a little puriform liquid from a pulmonary cavity, taken from the lung and intestine of a consumptive, thirty-three hours dead. On the 30th of March and 4th of April, we repeated the inoculation with a portion of tubercle. By the 20th of June, that is to say, after three months and fourteen days, no appreciable changes were produced in the health of the little animal; it had grown very much. We killed it and observed the following condition: A tablespoonful of serosity in the peritoneal cavity; tuberculous depositions situated along the great curvature of the stomach, and arranged in two parallel lines on each side of the median line. The granulations were grey, very small and oval; many presented a small, opaque, yellowish point at their centre. In the intestine, at about from two to three centimetres from the stomach, existed a rather large tubercle, of the size of a grain of hemp seed.

Other tubercles, smaller and less conspicuous, were disseminated here and there in the small intestine. There were also some tubercles in both substances (cortical and medullary) of the kidney. The lungs were full of large tuberculous masses, formed in a very apparent manner by the agglomeration of several granulations; these masses were of the size of a large pea; on incising them, we saw upon their cut surface, which was of a transparent gray, many small points of a yellowish white color; microscopic examination confirmed the tuberculous nature of all these products.

The brother rabbit, who had shared with this last one all the conditions of life, was next put to death, and presented *absolutely no tubercle.*

Second series of experiments.—On the 13th of July, we inoculated three fine, healthy rabbits, living in the open air, in a small enclosure, where a covered retreat was to be found, and enjoying abundant and varied nourishment (bread, bran, fodder). On the 22d of the same month we repeated the operation upon each of them, and at the same date inoculated, for the first time, a fourth rabbit, of the same litter with the preceding ones, and living with them. On the 15th, 16th, 18th and 19th of September, we killed all four of them, one after another. The following is a *résumé* of the autopsies: No. 1. Abundant pulmonary tubercles, gray, disposed in layers of the size of a *lentille*, with a rough, uneven surface, formed of agglomerated granules and offering yellowish points on section. Some miliary granulations were also observed. The lung was rose-colored, without any trace of inflammation. No. 2. Pulmonary tubercles almost as in No. 1. One tubercle was already yellow and in great part opaque. A coffee-spoonful of serosity was found in the pleuræ. No. 3. Pulmonary tubercles as in the preceding cases; yellowish-white tubercles in the ilio-cœcal appendage. No. 4 (this rabbit had only been inoculated a single time, on the 22d of July). Pulmonary tubercles, seated especially in the left

culous granulations semi-transparent or opaque, and yellowish, taken from the peritoneum and the pleural of a consumptive. For the last two we made use exclusively of caseous matter extracted with care from the lungs.

The inoculation was practiced twice, on the 12th December, 1865, and the 1st of January, 1866, according to the operative process indicated by M. Villemin. With a straight-bladed bistoury we made a subcutaneous puncture at the base of the ear, and into the wound thus produced we gently introduced small fragments of the substances mentioned above, fragments which we had previously broken up by triturating them with the point of the instrument.

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lung; from six to eight nodules of the size of a pea jutting out on the surface of one lung, and formed by the agglomeration of several granules. There was also found a great number of granulations surrounded by a light reddish congested areola. There were some tubercles in the peritoneal covering of the liver. While these rabbits were being experimented on, we put to death, for other physiological purposes, two rabbits living in the same conditions as our inoculated ones, and they offered no trace of tuberculization.

Third series of experiments.—On the 2d October we procured three pairs of rabbits of about three months old; the two rabbits of each pair were brothers and of the same litter, but each pair was of a different maternal stock. We inoculated one rabbit of each pair, and the two brother rabbits, one of which was inoculated whilst the other was not, were put together in the same cage. All dwelt, however, in a common habitation, divided into three compartments. We repeated the inoculation on the 24th October. On the same days and under the same circumstances we inoculated a fourth adult rabbit, of large size and extremely vigorous. Pair No. 1. On the 23d of November the inoculated rabbit was found dead. At the autopsy we observed the following lesions: two red patches occupied the front and the posterior borders of both lungs; these patches were composed of the pleura, a little thickened, and of certain parts of the congested subjacent pulmonary parenchyma. In the midst of these parts were found very small granulations, situated principally beneath the pleura. The kidneys were remarkable on account of the great quantity of cysts developed in the cortical substance and filled with a transparent liquid. The father (? brother) rabbit, killed immediately, presented no organic lesion. Pair No. 2 (29th November). The inoculated rabbit, put to death, presented a very great quantity of miliary granulations, seated principally beneath the pleura, which they elevated, and also diffused in both lungs. The same granulations were found in the deep-seated parts of the parenchyma, but were relatively less numerous there. Two agglomerations of granulations constituted small masses, with irregular projecting outlines and of the size of a small pea. The brother rabbit was *entirely exempt* from tubercles. Pair No. 3 (29th November.) The inoculated rabbit presented in both lungs red marbled stains, distinctly separated from the healthy pulmonary tissue, in the midst of which were observed small, gray budding granulations, to the number of two or three in each discolored spot; they were seated under the pleura. The tubercular development was evidently quite recent. There was nothing abnormal in the brother rabbit. Pair (?) No. 4 (27th November). The surface of both lungs was riddled with subpleural granulations; the smaller surrounded by a congested areola, the larger not presenting this peculiarity; two or three tubercles of the size of a small pea. The parenchyma of the spleen was strewn with granulations, as was also its surface, where we observed three or four exposed and flattened tubercles.

The seven rabbits, placed in a shell sufficiently supplied with light and air, and properly nourished, were sacrificed two months after the first inoculation. Now, here are the results furnished us by an examination of their organs: 1st. The two rabbits on whom no inoculation had been practiced, presented no lesion of the lungs and other viscera which could be ascribed to tuberculization. 2d. The result was equally negative in the two rabbits which had been inoculated with the pulmonary caseous matter. 3d. As to the rabbits inoculated exclusively with the matter of granulations, two of them (the third being reserved for a more prolonged experimentation) offered in the lungs lesions manifestly tuberculous, although as yet not far advanced.

These lesions consisted of a group of several small granulations, semi-transparent, hard, gray, being easily cut, and giving a section plane with slightly opaque parts at the centre. Their tissue, rather resistant, was composed of very small agglomerated sperical nuclei, held together by a granular matter or by fibres. These granulations exactly resembled those of man, and at the same time we were able to assure ourselves that they were identical in external aspect and histological composition with those contained in the lungs of the rabbits inoculated by M. Villemin, and kindly put at our disposal.

The inferior lobe of the lung in one of the two rabbits was greatly congested over a considerable surface, and the parts contiguous to the granulations contained large epithelial cells in the process of endogenous multiplication, and leucocytes. Moreover, in this same rabbit, we perceived under the skin on the right side of the neck (the side of inoculation) a chaplet, as it were, of large ganglions softened and yellowish; one of these ganglions measured about one centimetre and a half in length. Their pulpy, opaque tissue was mashed into a thick caseous jelly, and with the microscope we observed in it, accompanying the fibroid substance which formed the woof of the ganglion, some lymphatic cells and nuclei or small cells larger in general than in the normal condition, and infiltrated with fine proteiform and fatty granulations.

The peritoneum contained very many encysted worms *(vers vésiculaires)*, and the liver of one of the two rabbits showed small,

yellow and gray cysts, which, at first sight, as M. Villemin has remarked, might be taken for tuberculous granulations, but in which microscopical examination enabled us to observe in the clearest manner the eggs of parasitic helminthes, very common in rabbits.*

Let us add, that in our two rabbits there existed a rather deep eschar on a level with the superior part of the thigh. Was this eschar the result of nutritive disturbance, or of quite another cause? We do not know; we can only say that none of the other rabbits, whether inoculated or not, offered a similar lesion.

Subsequently to the first inoculations of M. Villemin and ourselves, other trials were made, not only on rabbits but also on other animals. Let us state at once that these were experiments confirmed by the first ones.

M. Villemin has had the kindness to communicate to us the results which he has obtained in rabbits and cabiais. We are happy to be able to record them here.†

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* These cysts may be encountered in the peritoneum, in the liver, the intestine and the lung. They are due to *pentastomes* (*linguatules*) *and to psorospermies*. The contents are often caseous, yellowish, and infiltrated with calcareous matter. (See upon this subject Davane, *Traite des Entozoaires*, and Virchow, *Die Krnkhaften Geshwulste*, t. ii, p. 634, et Arch., t. xviii. p. 523.)

† Rabbits.—1.—A rabbit inoculated on December 17th, 1865, was sacrificed the 6th of January, and he already presented two budding granulations in one lung. These granulations were of a remarkable transparency; they resembled vesicles of herpes, and were as large as a small pin's head.

2.—A rabbit inoculated on the 13th January, having become emaciated and being at the point of death, was killed on the 16th of March. It had upon the superior part of the left thigh two crusty patches stripped of hair. A little higher towards the rump, there was a rather extensive patch with ulceration of the skin. The skin was thick, lardaceous and hollowed out by ulcerations. *Lungs* filled with tuberculous masses formed of agglomerated granulations. *Spleen* containing a great number of tubercles of a yellowish-white color. *Kidneys.*—One of them offered a voluminous tubercle (of the size of a kidney-bean) contained in the cortical substance. Mesenteric *ganglions* hypertrophied and presenting yellowish-white points. Some small tubercles in the mesentery. *Intestines.*—Numerous tubercles disseminated in the inferior part of the small intestines. They were due to caseous hypertrophy of the shut follicles.

Cabiais—(These are the largest animal of the rodent species. They are found in South America on the borders of water-courses. They somewhat resemble the hog in appearance and feed on fish.—Translator.

Two cabiais (a male and a female) were inoculated on December 19th, 1865, by a puncture within each axilla. On the 2d of February, the female gave birth to two young, which were found dead. They seemed, however, to be at term; they were covered with hair. The two cabiais became excessively lean and the female died on the 21st of February. 1. Serosity in the peritoneum, liver voluminous with small gray granulations on its surface. On section, it presented a grayish-white network, disposed as in the nutmeg liver. The network

The preceding facts, although insufficient to solve all the questions relative to the inoculability of tubercle, demonstrate that the tubercle is inoculable from man to some animals;* they seem to us to establish also this other very important fact, to-wit: that only the granulation, otherwise called the specific and characteristic lesion of tuberculosis, is susceptible of being inoculated, and that the experiment fails when caseous matter† (the old tubercle of authors) is used as also, indeed, when one employs other substances (fibrine, pus, grease, etc.);‡ this is then, if the fact be confirmed by further experiments, a considerable result, and one which establishes very clearly the specificness of the tuberculous diathesis, a thing which many other reasons demonstrate.

Not that we go as far as M. Villemin in the inferences to be drawn from the experiments of inoculation reported above, and that we feel ourselves authorized to make a blank of the facts and knowledge hitherto acquired relative to the etiology of tuberculization. Let them place phthisis, as our learned confrere

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presented grains projecting above the surface of the section, and confluent. White or yellow masses forming species of fatty infarctus. *Spleen* very voluminous. *Lungs* strewn with small tuberculous granulations surrounded by a congested areola. *Bronchial ganglions*—Hypertrophy with yellowish points. *Blood* leucocythemic—Trains of white globules obstruct the capillary vessels of the liver. 2d. On March 31st, the second cabiai was found dead. The lungs were stuffed with tubercles; the animal had died of slow asphyxia. The tuberculous masses were formed of agglomerated granules. There were small granulations making a projection on the surface of the pleura. The lymphatic *ganglions* of all regions of the body were hypertrophied; in the axilla they were found to be entirely softened; they were composed only of a fibrous sheath filled with a yellowish pulp analogous to yellow cerate.—*Spleen* somewhat voluminous; its peritoneal envelope contained transparent, projecting, gray granulations. *Liver* sown with transparent granulations, in indefinite number and confluent at the interior. Those which were developed in the peritoneal membrane were very prominent on the surface.

* Inoculation may sometimes fail, as happens with the most plainly virulent maladies. We noticed this fact in one of our rabbits.

† It is well to know beforehand that granulations sometimes exist in the midst of caseous nuclei; in such a case inoculation would be followed by success.

‡ We think it necessary to recall the fact, that when we inject these substances into the veins, instead of insinuating them into the subcutaneous cellular tissue, we obtain *lobular pneumonias*, which may present an apparent analogy with the granulation, but which are distinguished from it, with the microscope particularly, by well defined characteristics. The experiments of M. Villemin and our own, ought not, then, to be confounded with those of MM. Cruveillier, Panum, Denkowski and others. (See page 159.)

wishes, in the class of virulent maladies by the side of glanders, of farcy, or of syphilis, still the mode of development of the malady will not the less continue to be what it has always been, and what, probably, it always will be, that is to say *spontaneous*. What is true for affections plainly inoculable, the glanders, for example, hydrophobia, variola, etc., which may manifest themselves in different ways—spontaneously, by inoculation or by contagion—is with stronger reason applicable to pulmonary phthisis, for which inoculation, even supposing it demonstrated to occur from man to man, will never constitute but an exceptional fact.

There is one question relative to the development of tuberculosis which might be raised with more fitness now than in the past, it is the question of *contagion*.

It is known that the opinion of the contagion of phthisis has been maintained by very reputable authors: Morgagni, Valsalva, Van Swieten, Morton, J. Franck, Hufeland and others, and that it is still very much in favor in some countries in the south of Europe, and principally in Spain and Italy. In France, on the contrary, the immense majority of physicians are anti-contagionists. But the accepted inoculability of tubercle ought, it seems to us, to bring to a belief in contagion many practitioners hitherto hesitating or opposed to it; and yet we should not feel obliged hastily to infer the second fact from the first. We observe, indeed, that a malady may be inoculable without necessarily being contagious; syphilis proves this; moreover, it is not demonstrated that the sweat, the sputa and the breath of consumptives, the presumed agents of transmission, are inoculable like the tuberculous granulation.* We know very well that contagion does not

* Many problems should be proposed and solved by experimentation. We will point out some of them.

1st. In what concerns the products of excretion of consumptives, (sputa, sweat, etc.,) they should be inoculated, or made to enter the system by the different channels of absorption (by the mucous membrane of the respiratory passages in particular).

2d. Relatively to the tubercle itself, it would be necessary to experiment separately upon the gray granulation, the yellowish granulation, and the caseous matter of pneumonia. For fear that cadaveric decomposition may alter the inoculable properties, or again, to avoid the objection that it was the putrefaction which communicated the virulence, the matter to be inoculated should be extracted from the organs of a rabbit on which inoculation had been prac-

necessarily imply inoculability, and that even when experiments would fail, it might yet happen that peculiar circumstances—prolonged cohabitation with a person infected with tuberculization, and the incessant breathing of the air which that person

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tised with success; again, one might employ the tubercles of the testicles after castration, on condition of using the semi-transparent rather than the large yellow and caseous masses of that organ. (See page 105.)

3d. We should inoculate tubercles and the preceding products on a certain number of animal species. But, in this question of the choice of the animal, some difficulties present themselves. We may have to deal, indeed, with species altogether refractory to tuberculosis; thus the dog and the sheep never offer it. (It is necessary to be pre-informed that in the dog there often exists in the lungs peri-bronchial fibrous nodosities, which observers have sometimes taken for tubercles. (See Virchow, Gessammelte, Abhandle, p. 312; et Krankhafte Geschu, p. 634.) The positive inoculation of tubercle in them would therefore possess great value, but negative results would not prove anything against the inoculability of tuberculosis; because we know that certain kinds of virus, for example, syphilis, are with difficulty transmitted to animals. Inoculation upon the bovine species would demand, in order to give unquestionable results, that we should be better instructed as to the real nature of the phthisis of the cow. (See p 46.) The inoculation of tubercle on horses would always be tainted by one cause of errors; we know indeed that the glanders is susceptible of being communicated to these animals with the greatest facility, even by the inoculation of pus, and that the glanderous and tuberculous granulations cannot be certainly distinguished from each other. By the inoculation of tubercle, one might then give the glanders to a horse, while the experiment would neither establish the inoculation of tubercle nor its identity with the glanderous virus. If, instead of experimenting upon animals which do not have tubercles, we were to take, on the contrary, those which nearly always present them in certain determined conditions, for example, apes and the ferocious animals which live in our menageries, we would be liable to errors of another kind. The positive inoculations would not signify anything, because the animals would have had many chances of becoming tuberculous without them. Thus, the better species for these inoculations are those in which tuberculosis is possible, but rare. The rabbit seems to us to be one of the animals which best fulfil this double condition. But there are others which may be assimilated to it in this respect; they are—birds, and, in particular, the fowls of the poultry-yard, such as pigeons, hens, ducks, geese, etc. (Voy-Rayer, *Archives de Médécine, Comparée.*)

4th. It would be worth while to transmit tuberculosis by inoculation from one individual to another of the same species, in order to ascertain whether the virus would not grow weaker and become extinguished by these successive transmissions. If one should succeed in artificially reproducing tubercle in many animal species, he could study the effects of inoculation from one of these species to another in order to appreciate the modifications which result from it, and to become acquainted with the animal species which are most apt to receive it and reproduce it.

5th. By the comparative study of inoculations of different age, one might succeed in ascertaining whether pneumonias or inflammations of any organ develope themselves consecutively to tubercle, and might also determine the conditions of appearance of these new phenomena and their symptomatic manifestations.

6th. One might, by placing together diseased and healthy animals, learn whether contagion occurs and specify its conditions.

expires—would produce results which could not be obtained in different conditions.

It is from this point of view, assuredly very worthy of our consideration, that some physicians have ranked themselves as contagionists, among whom we will cite particularly a learned hygienist, M. Michel Lévy,* and the author of a remarkable memoir, M. Bruchon, Assistant Professor at the School of Medicine of Besançon.† It is a certain fact that the instances of contagion have been chiefly pointed out between husband and wife, and although one may always invoke coïncidences when it is a question of a malady as common as pulmonary phthisis—although in each particular case the watching, the anxiety, the moral depression which follows the loss of one beloved, may claim a part of the influence, it is difficult, nevertheless, to abandon the idea of contagion when we see vigorous subjects, without hereditary antecedents, attacked by phthisis, after having lived a life of intimacy with a consumptive.

One remark, however, ought to find a place here, a remark which has not escaped the sagacity of M. Bruchon and of our learned confrères, M. M. Gueneau de Mussy‡ and Gubler.§

In this question of contagion between married persons independently of the possible transmissibility by the breath and the perspiration, we must take into account another element, the infection of the fœtus, to which the husband may have transmitted the tuberculous germ. "The woman" says M. Bruchon‖ "preserves during the whole term of pregnancy a fœtus, a germ fecundated by a person infected with this formidable diathesis and often tainted, at least potentially, with the hereditary organic vices which spring from this source. Now with the knowledge of the intimate relations which bind the mother to the offspring and establish such a close connection between them—with the idea,

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* Michel Levy, *Traité d'Hygiène.* 3d edit., t. ii, p. 763.

† Bruchon, *De la Transmission de la Phthisie Pulmonaire sous l'influence de la cohabitation* (*Revue Médicale*, 1859, t. ii, p. 70).

‡ M. Gueneau de Mussy, *loc. cit.*, p. 15.

§ Gubler, *Soc. Méd. des Hôpitaux*, Seance du 14 Mars, 1866.

‖ Bruchon, *loc. cit.*, p. 84.

established by pathological anatomy, of the possibility of a tuberculous evolution in the new-born infant and even in the fœtus, may we not infer that a pregnancy under these conditions would often be for the mother the proximate cause of a like affection?"

If this mode of contagion is admitted, it will be interesting to know whether the transmissibility is not oftener observed from the husband to the wife than from the wife to the husband. On consulting our memories, we feel disposed to think so. M. Gueneau de Mussy is not far from this opinion.

In the four cases by M. Guibout,* tuberculization declared itself four times in the wife after the death of a tuberculous husband, and twice after one or several pregnancies. M. Bruchon, on his part has observed that out of ten cases which he reports from memory, nine times the disease commenced in the husband, and that several women were not infected till after the accouchement, and often after the death of the infants. There is here an interesting line of study to be pursued.

Lastly, in some cases, might it not happen that a consumptive infected with tuberculization of the genital organs (the testicles, epididimis, prostate, deferent canal, etc.), would directly inoculate the virulent principle on the woman with the seminal fluid? We limit ourselves to pointing out this possible cause of contagion, as also one other, admitted by some authors; we allude to suckling by a tuberculous nurse.†

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* Guibout, *Soc. Méd. des Hôpitaux*, Seance du 14 Mars, 1866.

† For a powerful array of statistics against the theory of contagion by simple association, breathing the same air, etc., see Dr. Cotton's article giving the statistical history of the Brompton Hospital for Consumptives, as regards its attachés.—*London Lancet*—Original Edition, Nov., 1867. Reprint, February, 1868.—Translator.

ART. VI.—*A Successful Case of Cæsarean Section;—Operation by Drs. H. C. D'Aquin, D. Warren Brickell, F. Borde, and H. Bayon of New Orleans.* Reported to the Medical Association of New Orleans, Feb. 5th, 1868, by D. WARREN BRICKELL, M. D., Professor of Obstetrics, etc., New Orleans School of Medicine, with remarks.

DECEMBER 21st, 1867, at half-past one o'clock, P. M., I was called by Dr. H. C. D'Aquin, of this city, to see Mrs. D——, a young wife in labor with her first child. Dr. D. told me that the case was one of a grave nature, and he desired my opinion, as an obstetrician, in regard to the best remedial measure to be adopted. I at once accompanied Dr. D. to the patient's bedside, and there found Drs. Borde and Bayon, of this city, who had been called by Dr. D'Aquin a few hours before.

I here introduce Dr. D'Aquin's own account of the case up to the moment of my first seeing her:

"I was called to see Mrs. Despretz on the 16th of December, 1867. The midwife, Mrs. LeVielle, had been in attendance for five days, and seeing no progress in the labor, notwithstanding severe uterine pains, she asked for a physician. On examination, I found a vagina that seemed to me short and small, and a kind of bridle that extended across from one pelvic ramus to the other, a sort of second hymen. This fold was about two inches from the vulva, and behind it was a tumor about the form and size of a large hen's egg. The whole condition simulated an os uteri widely open, with the amniotic membrane protruding. Next morning I examined again, this time with the speculum, and found that the bridle was a fold of the vagina and the tumor the thickened neck of the womb, the os uteri being closed and only recognized by the finger as a point of depression. The surface of the neck was rough, apparently half an inch thick, and bled readily when touched. The patient continued with labor pains until the morning of the 20th, when a little pressure with the finger made the first opening, and this slowly enlarged until the morning of the 21st, when it reached a diameter not greater than a silver half-dollar piece. I never encountered any amniotic sac. I now made traction by means of the loosened scalp, at intervals from eight to eleven o'clock, when it broke, and a large quantity

of putrid fluid flowed forth—apparently cerebral and serous matter. In the meantime I had tried to use the forceps and blunt-hook, but without avail.

"The labor pains continued and were severe, but instead of further dilatation of the os a steady thickening of the lips was going on. At 11 A. M., on the 21st, Drs. Borde and Bayon joined me, and after examination we decided to call you in.

"I should not omit to mention, that on my first visit I diagnosticated the death of the child."

Mrs. D. was born at Milneburg, a village at the Lake end of the Pontchartrain Railroad of this city; she is twenty-three years old; has been married thirteen months; has been always in very good health, and has considered herself an active woman; has had occasional attacks of acute sickness, and previous to marriage has sometimes had slight catamenial interruptions, with some vaginal leucorrhea; has never been chronically sick, however; during her pregnancy her health has been good. She is a very genteel woman, in the middle class, and is accustomed to work. She presents the general appearance of the French Creole of this class, viz., dark skin, hair and eyes.

Her condition, when I saw her at two P. M., was as follows:—Face expressive of great anxiety; skin of dusky hue; lips distinctly approaching lividity; tongue red, with a broken white fur over the middle; respiration twenty-six; pulse one hundred and forty three to the minute, of pretty good volume, but losing force; all uterine action ceased for fifteen hours past. Examining per vaginam, I found the vaginal secretion almost arrested and the temperature of the parts much elevated. The lips of the uterus were enormously swollen (probably three-quarters of an inch in thickness), quite severely rent in three places, and were jutting prominently into the summit of the vagina. They and the whole vaginal canal were excessively sensitive, so much so as to cause loud complaints from the patient, who was certainly very courageous. The neck of the womb was very long and admitted of the tolerably easy passage of two fingers, but a third finger put the parts distinctly on the stretch, and, holding the three in a line, and advancing them steadily, I could distinctly

feel the tissues of the neck breaking. Indeed, such was the friability of these parts, I am sure that I could, by firm pressure have broken down the tissue of the lips with my finger and thumb. The idea distinctly conveyed to my mind, was that the parts were on the verge of sloughing. The collapsed head of a putrid child presented high above the unyielding neck, and a portion of the scalp was lying in the vagina. The odor emitted was extremely disagreeable.

In addition to all this, there existed the band across the posterior wall of the vagina, alluded to by Dr. D'Aquin, and which appeared to me as an extensive and strong cicatricial mass of semi-lunar shape, and very seriously narrowing the canal.

My conviction was soon clear that the delivery of the woman, *per vias naturales*, would be a most difficult and tedious operation, and I promptly recommended the Cæsarean section on the following grounds:

1st. No considerable part of the child could be drawn through the constricted cervix uteri, now so friable, without laceration, the extent or direction of which could not be controlled.

2d. In consequence of the first proposition, the child would have to be taken away piece-meal; and the vaginal canal being dry, and of very limited capacity, the opening into the uterus very limited, and the child high up, this operation would be very tedious.

3d. The excessively sensitive condition of the parts, and the necessarily tedious nature of the operation would necessitate the use of chloroform, and the prolonged administration of any anæsthetic would seem to be contraindicated by the rapidity of the circulation and respiration, together with the existing degree of carbonization the result of greatly prolonged labor.

4th. The lips and neck of the uterus seemed already on the verge of sloughing, and prolonged manipulation would hasten such result, and would, in my opinion, endanger the woman very greatly.

These points were urged in consultation, but some great fears of Cæsarean section being expressed, I proposed to try and demonstrate whether anything could at all readily be accomplished by instrumental means. I first tried faithfully to apply a

pair of delicately made Hodge's obstetric forceps to the head, but it was a failure, there being no adequate room for the introduction and adaptation of the second blade. I then tried faithfully, during half an hour, to reduce the head piece-meal with Meigs's craniotomy forceps, but there was so little room in the vagina and cervix for both the hand and instrument, that the progress was lamentably slow. To my mind the proposition was clear that many hours would be required for piece-meal delivery, that an anæsthetic would be absolutely necessary, and that the result of prolonged manipulation would be fearful.

It was now unanimously agreed that Cæsarean section should be resorted to, and the patient and her friends readily assented. Some preparation was necessary of course, and it was half-past four P. M., before the patient was placed on the table.

Operation—A pad was placed on a small table about two and a half feet in width, and the patient was placed on this, with her nates close to the edge and her feet resting on chairs. Her shoulders and back were considerably elevated, to enable any blood flowing during the operation to pass the more readily over the pubic region. Dr. D'Aquin took the knife and assumed position at the end of the table between the limbs of the patient. Dr. Borde administered chloroform, and the bladder having been tested for urine (of which there was but small quantity), the operation was begun. It being desirable to have her in a state of perfect quietude, chloroform was administered to thorough anæsthesia. The incision was begun about an inch to the left of the median line of the abdomen and on a line with the umbilicus, and was extended about five and a half inches downwards and a little obliquely inwards. The wound gaped very freely open, and even when the knife had divided everything down to the peritoneum the amount of hæmorrhage was limited to a degree that I would never have imagined. My own conviction is, that from the beginning to the end of the operation not more than three or four tablespoonsful of blood were lost from the abdominal walls proper. The peritoneum was now divided to the full extent of the incision, and the pregnant womb was fully exposed to view. The patient made a little exertion just at this moment and the omentum appeared at the upper part of the opening, but it was

promptly pushed back, and troubled us no more. A free opening was now made through the uterine walls, when the placenta appeared underneath. This was now swept away with the hand, and the child was seized and extracted. The placenta being detached as shown, it was extracted along with the child, making the delivery at once complete. At every step of the cutting and extracting, the walls of the abdomen were kept by pressure closely in contact with the uterus, with the double purpose of keeping the intestines out of the way and of preventing any blood passing into the abdominal cavity. As soon as the knife was applied to the uterus the blood gurgled freely from its numerous and large vessels, and after the delivery was accomplished this thing continued, for the organ contracted only partially, and then collapsed—the right side dropping in. No physical stimulus seemed at all likely to produce safe contraction, the blood was running pretty freely, it would not do to close the abdomen with the uterus in this state, and it was at once determined to close the wound in the organ by means of silver sutures. I had some fine wire of best quality in my pocket case, and six sutures were promptly applied. This number was found necessary for close adaptation of the cut surfaces and complete arrest of hæmorrhage. These sutures were plunged deeply through the uterine tissue and secured by an ordinary double knot, the ends being left about a quarter of an inch long and laid smoothly on the uterine surface.

The surfaces of the abdominal wound were now carefully sponged and brought together with fine interrupted sutures of strong silver wire—the same being plunged deeply through all the tissues, peritoneum included. Above and below and between the sutures, broad adhesive strips were placed, the same reaching across the abdomen; at right angles and across these four other strips were placed, one across the ends, and one on either side of the wound; and over this a light cotton bandage was placed to support the abdominal walls.

The whole operation, from the time of applying the knife to the time of the completion of the fitting of the bandage, occupied forty-three minutes. Several minutes, however, were lost by vomiting aroused by chloroform. As soon as the last abdominal

suture was applied she awaked—the chloroform having been withheld with that view—and at once she began to vomit a considerable quantity of milk which her friends had given her while we were preparing for the operation, and altogether without our knowledge or consent. This effort to vomit had a very ugly appearance, as it caused the wound to gape between the sutures, and the walls of the abdomen had to be freely supported by the hands spread widely over and about them. The adhesive strips could not be applied until she was perfectly quiet.

As soon as the dressing was completed she was carefully lifted from the table to her bed and comfortably covered. The expression of her countenance had completely changed; she smiled when spoken to, and expressed thanks for the relief from her protracted agony. Her respiration was now but nineteen to the minute, and her pulse one hundred and forty—three beats less than when the operation was begun. She was ordered two grains of opium and absolute quietude.

The weather was very mild and pleasant at the time of the operation, and no special preparation was made for regulating the temperature of the room at the the time of or after the operation. The whole loss of blood was much smaller than I should have expected, and at no time seemed to depress her. When the placenta was exposed to view by the knife, it presented a dead and ashy appearance, and no hæmorrhage at all occurred when it was stripped off.

I regret to say that I have lost some detailed notes of this case taken from day to day while she was confined to her bed, though I do not know that they would, if preserved, add any material value to the report. On the morning after the operation I visited the patient, and found her calm, cheerful, not suffering at all, with a pulse of 138, not the least uneasiness in the seat of operation, no thirst, skin of natural temperature, and really refreshed by good and sound sleep. The nurse reported that soon after the operation an apparent lochial discharge was going on, and it had continued steadily and moderately since. It was now almost wholly without odor. Certainly none of the fetid odor that prevailed before the operation. The urine had been drawn at proper

intervals with the catheter, and was secreted in ample quantity. The patient had appetite, and was allowed simple nourishing food.

On the second day the patient's condition was all that could be desired. She had again slept well, the pulse was down to 128, and no pain in seat of operation. There was, however, a little tympanitis, and, for fear of distension, it was deemed advisable to resort to simple warm water enemata, which now and subsequently promptly relieved this symptom.

On the third day, at nine A. M., I found Dr. D'Aquin a little uneasy about her, as she had been alarmed and excited a good deal the night before by the firing of pistols and other noises on the streets, and had slept but little. Her pulse, too, was up to one hundred and fifty, though it was full and round, and there was a little elevation of temperature. All other symptoms were good, and I felt confident this perturbation would be of short duration. Sure enough, on the second day she was devoid of a single bad symptom, and from this time forward the recovery was uninterrupted. After the second night no anodyne was administered; the urine was regularly drawn for seven or eight days; the bowels were kept soluble by enemata; nourishing food in simple form was given, and absolute quietude was enjoined. Every day or two the bandage was adjusted in order to support the abdominal walls, but the sutures and adhesive strips were not interrupted.

On the morning of the fourth of January, or on the fourteenth day, the adhesive strips were removed, when adhesion by first intention was found almost complete. But a few drops of pus could be found, and this was from a few granulations about the centre of the wound. On this occasion the upper suture was removed and the adhesive strips re-applied. Next day I removed two more sutures, and the day after the remaining two, each time supporting the newly cicatrized parts with adhesive strips.

On the tenth of January, or the twentieth day, I visited the patient for the last time. She was well, but had had the good sense to be more than prudent, and had not yet sat up. Dr. D'Aquin has since informed me that she left her bed on the 25th day. At my last visit I made a digital exploration of the vagina and uterus. Cicatrization was complete, and all sensitiveness

had passed away. There was a perfectly flattened and firmly cicatrized condition of the region of the lips and os uteri, but I am pretty sure the finger detected a perforate os. Towards the lower third of the vaginal canal, there was a strong band of cicatricial tissue. Examination through the abdominal walls proved that the uterus was not above the usual size at this date of her delivery, and on pressing the organ between the fingers of the two hands passed in the different directions there was no unusual sensitiveness.

OBSERVATIONS.

This case is one of remarkable interest.

1st.—I am not aware of the operation having been performed before under similar indications, and these indications would seem to be as thoroughly legitimate as any yet advanced.

Looking at Churchill's statistical table, we find the cases of Cæsarean section to be set down as follows: Mollites Ossium, Malacosteon, Distortion, Tumor, Fibrous Tumor, Exostosis, and Scirrhus. Osseous deformity is far the most frequent condition that prompts the operation, but it must be plain to the understanding that grave conditions of the soft parts, whether primary or secondary in their nature, can become distinct indications for the operation. I am fully convinced that the manipulation necessary for the delivery of the child piece-meal, would have resulted disastrously to the woman, as it must have been necessarily very protracted and rude, the vagina being narrow, the lips of the womb being enormously swollen, the cervix being very deep and wholly unyielding except to tear, the child being reached with difficulty, and its condition of decomposition rendering all soft tissues wholly unreliable for traction; indeed, even the cranial bones would break away in small pieces under the forceps of Meigs. The truth is, to at all justly appreciate the case one must have applied the hand to the parts. We are clearly taught by this case the importance of being alive to new indications that may arise for the performance of even the most important operation, as well as of remembering that such indications may arise in the progress of cases, there being possibly no color of reason for such action primarily.

2d. The very small quantity of blood that flowed from the

abdominal walls, and even the comparatively small amount from the uterine walls, is a matter of interest. I looked in vain for any florid arterial blood from either source, and I am sure that one great important result of the protracted labor undergone by the woman was this material vitiation of her blood. Not only was all the blood very dark, but it was a matter of clear observation that the velocity with which the blood flowed was far below the ordinary standard. From the abdominal walls it was a sluggish oozing, from the uterine walls a sluggish gurgling from the numerous large and patulous vessels.

3d. A most important observation is the one that when the dead placenta was stripped from the uterine surface, there was no consequent hæmorrhage. Clearly, in this case the function of the placenta had long since been ended, as shown by the decomposition of the child, and consequent on this condition of things, although the placenta still remained in apposition to the uterine walls, the utero-placental vessels had ceased to be a medium of circulation. In the performance of Cæsarian section this would seem to be rather a desirable state of affairs, as the probabilities of *post partum* hæmorrhage would be rendered very slight, and the probabilities of septicæmia be greatly diminished.

4th. A most important observation was that of the failure of the uterus to contract fully on its own cavity after the ovum was removed. Indeed the organ had to be freely manipulated to make it contract even moderately. Not only did the blood continue to flow freely from the large wound inflicted, but one side of the flaccid organ absolutely fell in, and it had to be lifted up to pass the sutures. This condition of the organ was manifestly the result of protracted effort, and the observation should serve as a warning against the too common practice of delay until the womb has worn itself out in efforts to accomplish an impossibility. Certainly, in any case where such malformation exists as to teach us clearly in the beginning that the section is the remedy, the womb should not be thus taxed when we see what evil can exist.

5th. The remedy for this hæmorrhagic condition is, so far as I am aware, novel. With the exigency before us, there could not be a doubt in my mind as to the remedy, and it is seen that not only was the hæmorrhage promptly arrested by close adaptation

of the cut surfaces of the uterus but the collapsion of the organ was in this way relieved, and the wires have up to this moment proved wholly inocuous. I find in this part of the operation the most interesting point of all. I have long been of the opinion that in all probability the majority of deaths from Cæsarean section were the result of bleeding from the uterine walls into the cavity of the abdomen—the bleeding itself depressing the woman, and the effused blood lighting up peritonitis. Moreover, I have thought that concomitant with this bleeding was the gaping condition of the wound, the consequent absence of healing by first intention, and the strong invitation to metritis and septicæmia. I have often resolved in my own mind to sew up the uterus in case I should be called on to operate, no matter how well it might contract at the time of operation; and on the ground that even the most vigorous uterus, after a normal delivery, is liable to expand and bleed, and in case of the section being made, and our sewing up the abdomen over a womb we see to be well contracted. we cannot say that such secondary expansion will not occur; indeed, I contend that we have a right to expect the shock of operation to produce such expansion, and if the organ be not secured by sutures the result must ever be disastrous. I am satisfied that it may be theoretically and practically asserted true surgery to apply the metallic suture to the uterus in all such cases. The inocuous nature of the metallic suture is every day proven in surgery, and there can be no reason for apprehending danger from its application in every case of Cæsarean section. We have no right to assume that the incision made in the womb will remain closed by uterine contraction because we see it thus closed before we close the abdomen; but when we have availed ourselves of the metallic suture we have the right to expect the edges of the wound to be permanently adapted. But it may be asked, what will become of the six sutures left in the uterus? I think there can be no donbt whatever that they will be securely encysted either on or in the neighborhood of the uterus, and that they will not be productive of any further trouble to the woman. I have had it suggested that if these sutures remain in the uterine tissue, and the woman should again become pregnant, as the organ becomes largely developed they will cut and irritate. I

think the conclusion illegitimate. The fact is, that the sutures have been applied when the organ was very much larger that when not impregnated; consequently, as involution progressed, as the organ diminished in size, the tendency would be to relieve the wires from the uterine structure.

6th. The simple mode of dressing adopted in this case is worthy of note. At my suggestion no charpie or other like material was used. The surfaces of the abdominal wound were simply brought carefully together by means of silver sutures deeply plunged through all the tissues, and above, below, and between these sutures adhesive strips were placed with the same end in view. Over all a very light bandage was adjusted, with a view to the general support of the abdominal walls, and the result was thorough adhesion by first intention. I have long been satisfied that an essential condition to the insurance of prompt adhesion by first intention, is freedom from all dressings or applications save such as will meet the indications mentioned, and the result in this case corroborates the position.

7th. The extraordinary duration of the labor in this case (near ten days,) is a matter of wonder. Certainly the powers of endurance on the part of the woman were remarkable. Fortunately for her, no part of the child was fastened in the pelvic bones all this time, or extensive loss of tissue must have resulted. As it was, it is certainly a matter of surprise that the lower segment of the uterus did not give way. From the statistical table of Churchill I learn that in two cases of Cæsarean section the women were in labor *twelve* days. Both children were lost, but one mother recovered. There is also recorded a labor of ten days before the operation, with loss of mother and child. Also one of eight days, with loss of mother and safety of child; and still another of seven days, with loss of mother and child.

8th. The original difficulty in this case is a matter of deep interest. In the absence of any direct evidence of a pre-existing constitutional or local vitiation, together with the establishment of apparently healthy cicatrization of all tissues at the summit of the vagina twenty days after the operation, I find myself forced to the conclusion that the primary difficulty was rigidity of the soft parts, and I think it quite admissible to suggest, that this rigidity

may have had its origin in some inflammatory action previous to or soon after marriage. There can be no doubt of the existence, when Dr. D'Aquin first saw her, and now subsequent to the recovery from the operation, of a cicatricial band across the vagina, and we can only conclude that this is the result of inflammatory action at some time. That high inflammatory actions occur in these parts in all the stages of infancy and childhood, and immediately subsequent to marriage, we know to be true, and I have personally known, not only cicatricial bands to result, but absolute atresia vaginæ. And if vaginitis can thus occur, and such results ensue, we can readily imagine a concomitant cervicitis, with the result of impairing or destroying the dilating capacity of the sphincter of the lower segment of the uterus. I would sooner believe that rigidity existed under this hypothesis than that it was simply a perversion of physiology of the muscular structure of these parts—a mere unwillingness of the muscular fibre to yield. There may have been a congenital deficiency of these parts, though that fact could hardly be established now since the establishment of such abundant cicatricial substance. Now, absolute deformity of the lower part of the womb and of the upper part of the vagina does exist, but we must accept it as the result of this crisis through which she has passed.

9th. It may be asked, whether the application of the knife to the lips and neck of the uterus could not have been substituted for Cæsarean section. We know very well that in cases of rigid os uteri this measure is sanctioned. Whether such means would have sufficed for delivery at any time prior to my examination of the patient I am not prepared to say. That it promised as much as the section when I saw her I shall never believe. I think the dangers of extensive destruction of tissue, and of peritonitis and septicæmia, would have been infinitely greater.

10th. It is, perhaps, to be regretted that at the same time the section was being made in this case no step was taken to render a repetition of pregnancy impossible. In case of such bony deformities of the pelvis as would render it always impossible for a woman to give natural birth to a living child, and where the Cæsarean section is being made, the severance of the Fallopian tubes, cutting off the communication between the uterus and

ovaries, must ever be a legitimate act, and if this be true in the case of bony defects it must be equally so in the case of permanent defects of soft tissue.

NOTE.—May 7th, 1868. At this date Dr. D'Aquin informs me that the patient is completely restored to health. He has explored the vagina since I did, and reports the os uteri pervious. The silver wires left in the uterine walls have given no trouble whatever.

CLINICAL MEMORANDA.

FROM CASES TREATED IN THE CHARITY HOSPITAL, AND BROUGHT BEFORE THE MEDICAL CLASS, UNIVERSITY OF LOUISIANA, SESSION OF 1867–8.

ART. VII——*Surgical:* By Prof. WARREN STONE. Reported by WARREN STONE, Jr., M. D.

THE cases which furnished material for the clinics of the Professor of Surgery in the University, during the past session, proved, in the result of the treatment carried out, to be so eminently illustrative of principles emanating from purely practical observation, that even an imperfect review, it is to be trusted, will not be entirely unprofitable. It has been determined to avoid, as being both unnecessary and tedious, any detailed account of each separate individual case, but rather to select certain classes of surgical diseases, of which there were presented a sufficient number to justify the establishment of some fixed principle. In addition to the material which was brought before the class, as selected from the surgical wards appropriated for the use of the University, there came under the Professor's notice, as well as my own, a number of out-patients of such deep interest in a practical way, that it has not been deemed inappropriate to incorporate a mention of them in the report.

The number of cases of hydrocele treated were, in proportion, unusually large. The tumor, especially, when of considerable size, was tapped, and the patient discharged with instruction to return as soon as the sac had become distended by the serous secretion to about half its former size. Then the operation for

the radical cure was immediately performed. The object of first adopting what is termed the *palliative* treatment was two-fold, viz: that of affording the patient the very slim chance of the dropsy not returning (and I may here remark that in no instance did this occur), and secondly, that of rendering the operation for the radical cure the more certain; for, when the remedial fluid is injected into sacs, from which a large quantity of water has just been drawn, its walls are, by the contraction of the dartos, thrown into so many complicated folds that it is quite uncertain whether, even by the most strenuous exertions, it succeeds in exerting its influence over the whole surface—which is absolutely necessary for complete success.

Now as to the fluid used for this radical cure. In every case nothing but the compound tinct. of iodine, *pure*, was used, and with invariable success. A small trocar was inserted in the ordinary manner, every drop of the water carefully drawn out, and, by means of a proper syringe, as much of the tincture as the size of the sac required was injected. No dilution was ever found necessary. Indeed, as above mentioned, it was scrupulously avoided by thoroughly emptying the tumor of its contents. The fluid once in, with the finger upon the end of the canula to prevent its escape, a most thorough kneading of the scrotum was practiced, so that every part of tunica vaginalis might be subjected to its influence. This done, the fluid was allowed to escape, and the patient directed to suspend the scrotum and keep himself at rest for several days.—During the succeeding twenty-four or thirty-six hours, the scrotum generally swelled, varying in size in different cases, sometimes almost as large as before the operation. This swelling generally lasted from two to four, or even five days, and then gradually subsided, leaving the patient perfectly cured. As a rule, the inflammation excited never progressed beyond the proper limits; when it did, the simplest means always subjugated it.

Chloroform was never used in the operation, the pain attendant upon it not seeming to justify it. By holding the canula in such a direction as to avoid throwing the current upon the cord, that severe pain running up its course and producing a sense of prostration was avoided, and the patient simply subjected to a feeling of heat in the scrotum, which always proved to be per-

fectly bearable, and rarely ever lasted more than half an hour at the farthest.

As to the question whether the injection should be used when the testicle is in a state of chronic or even sub-acute inflammation, or whether means to reduce either stages of the inflammation should be adopted before its use. Although in quite a large proportion of the cases both chronic and sub-acute inflammation of the testicles existed, this complication was not considered an impediment to the operation; indeed I will say, that instead of its producing any unfavorable results, the effect upon the organ seemed to be, if anything, beneficial; it always appeared in a marked manner to hasten return to the natural state. It is true that in a certain number of these cases a gentle mercurial course was adopted, but the rapid change from disease to health contrasted so favorably with that occurring in simple chronic uncomplicated cases of inflammation of the testicle, that it does not seem injudicious that we should allow a good share of the benefit to be appropriated by the iodine injection.

There occurred but one case of hydrocele of the cord. This happened with an old man aged 70 years, who was also suffering with the same trouble of the tunica vaginalis. Both tumors were punctured at the same time, and injected as above mentioned with perfect success.

Organic strictures of the urethra were treated on the plan of gradual dilatation. In some few, but very few, cases of old, indolent strictures, with but little sensibility, forcible dilatation was practiced; but in every case of this sort the subsequent use of the smooth, conical-pointed, metallic bougie was never neglected, it being considered absolutely necessary for the permanent cure. But, as I have said, such cases constituted a very small per cent. of those which came under observation, I can therefore assert that the rule of treatment was that of gradual dilatation.

Now as to the manner of using the instruments, the rapidity with which the size was increased, and the little adjuvants used. Where the stricture was so tight as to offer considerable resistance to the passage of the smallest size, and withal sensitive, no forcible effort to effect a passage was made. The patient was put

upon equal parts of tartar emetic and morphia in the evening, and the medicine pushed until nausea ensued; an early breakfast ordered, and the same course begun several hours after the meal; a warm hip-bath administered and then the attempt made. With this course a passage was almost always effected. Once through, the same instrument was introduced every other day, until it was found to pass without difficulty and without giving pain to the patient. A size larger was then used, but with great care, proper attention being paid that no undue amount of pressure should be made upon the strictured point. It was always kept in view, the amount of wedge power exerted by the instrument, and its comparatively easy passage was not permitted to influence a too rapid increase in the size. The stream of urine was frequently observed to be gradually increasing in size under the use of the same instrument, when either at the patient's solicitations or our own impatience an inadvertent change would, by making unwholesome pressure, produce bad effects and throw the case back several weeks. In those cases of excessive irritability, prone to engorgement, etc., much advantage was derived from injections of solution of nitrate of silver, ranging in strength from five to ten, fifteen or even twenty grains to the ounce of water.

Where the patient was forced to rise a number of times during the night to urinate, and this accompanied with pain, much relief was obtained from either an opium suppository or an anodyne enema administered at bedtime. In such cases I will also mention the great assistance afforded by the use of the tartarized antimony and morphia, administered as before mentioned. In a few cases of very recent strictures mercury, given in small quantities and pushed until its specific effect was obtained, seemed to do good.

There were several cases admitted into the wards suffering from stoppage of the urine, as a result of sudden engorgement of an old stricture, resulting from excess in drinking, or venery, or unusual exposure to the weather. Upon inquiry, it was found that they all had had strictures of gonorrhœal origin for several years, had been under treatment at various times, but from that peculiar improvidence that seems to characterize certain classes, had as often abandoned it, being content so long as the bladder

could be emptied. In these cases, instead of making efforts as violent as they would have been futile, to force a catheter into the bladder, the following means were adopted: All instrumental interference was avoided; tartar emetic, hip-baths, etc., were used, and in every case in a short while the urine began to dribble. In a few days the stricture recovered its former calibre, and was in the best condition for the treatment of gradual dilatation.

In several instances there came under observation, patients who, suffering as above mentioned, had been subjected to the violent use of instruments before admission into the hospital, thus offering an opportunity of establishing a comparison. In the first place, it was seldom that a passage was effected, and even in those in whom catheterism was successful, the same stoppage occured, and forced them into the hospital, when the course just mentioned was adopted, and permanent relief was always secured.

As to the length of time that the instrument, when used, was allowed to remain. If the first unpleasant sensation accompanying its introduction increased to positive pain, it was always immediately withdrawn, it having been observed to be productive of positive evil, even when the patient gave assurance that though painful it was bearable. If no pain was complained of, or rather if the first painful sensation disappeared, it was allowed to remain for fifteen, twenty, or thirty minutes. The practice of keeping the instrument in for twenty-four or thirty-six hours was not practiced, on the contrary, it was most earnestly deprecated. Patients were never discharged without being particularly instructed as to the very strong probability of a return of their malady, and were ordered a proper sized instrument to be used by themselves, as soon as they observed any change in the calaber of the stream of urine. Little difficulty was experienced in teaching them the use of the instrument.

No case occurred which called for external division of the stricture, generally called Syme's operation. The efficiency of this operation when followed by the subsequent persevering use of the bougie, is fully recognized, and had any cases to which it is peculiarly adopted presented themselves, it would have been performed without hesitation.

All the cases of stricture were of gonorrhœal origin, and for the most part situated in the membranous portion of the urethra. There was but one case of traumatic origin. This happened with a carpenter who fell astride a narrow board and ruptured the urethra. As is always the case, his stricture proved the most obstinate, but was finally overcome.

Fistula in ano (complete), was treated by the knife, especial care being taken that the original opening in the bowel should be found, and not an artificial one made by the point of the probe, which is quite an easy matter, unless proper care is observed. This finding of the original opening in the bowel, and cutting from it through the sphincter muscle was looked upon as absolutely essential to the cure. Several cases were admitted that had been operated on previously without success,—and this mishap was attributed to this piece of neglect. It was never deemed necessary to cut higher than the opening in the bowel, even when the sinus was found to have burrowed some distance above it. No difficulty was experienced in any of the cases—the wound being so treated as to cause it to fill from the bottom—rapid recovery took place.

Hæmorrhoids (internal) were treated by the ligature. In applying the ligature it was made an object to place it as high up as possible—even in the largest sized hæmorrhoidal tumors, it was never found necessary to apply more than three, scarcely ever four ligatures. When the slough came off, if any points of ulceration were left, causing the patient uneasiness and much straining at stool, relief was generally obtained by injections of one part of Labarraque's solution of chlorinated soda to eight or ten of water.

Syphilis in its various stages occurred in large proportion. The primary sore, when *soft* in nature, was always treated as a simple local disease. The application of caustic with the idea of destroying the virus was never used, it being considered useless. When used at all, it was upon the same principle that would have suggested it in any other ulcer.

Buboes when suppurating, were freely opened as soon as pus was detected, as would have been done in any ordinary abscess.

In the larger proportion of cases with soft chancres no con-

stitutional symptoms manifested themselves, but in some there is no question that such *did occur*. Now, whether the chancre was at first indurated, and then before the patient came under observation changed its character, cannot be positively determined, for very little reliance can be placed upon the testimony of any patient, much less such as come to the hospital for treatment. However, it does seem rather singular that in this country, where indurated chancres have gotten to be almost the exception, there should be so many suffering from the disease in its secondary and tertiary forms. But, as no discussion on this point is contemplated, I will simply say that be the matter as it may, one thing is certain—observation has shown that in the true, genuine soft chancre, mercury, the great syphilitic specific, so-called, not only aggravates the local trouble, but does not give any immunity from constitutional effects, if such are to ensue. Several opportunities were afforded for observing its sad effects, and they were the very worst cases we had to treat. Such applications as the nature of the ulcer seemed to require were used upon the same principle as would hold good in any simple ulcer.

There were only two cases of indurated chancre admitted. Both were seen at the onset of the disease. In each case mercury was used until gentle pytalism ensued, and then the iodide of potassium. The glands in the groin swelled and were peculiarly painful to the touch, but did not suppurate. One of the two cases was detained in the hospital, by an attack of fever, for several weeks after the chancre had healed and the buboes subsided. Although, as I have said, his case came under treatment almost immediately after the disease manifested itself, six weeks after he presented evidences of constitutional symptoms in the shape of quite a number of coppery blotches on his forehead, a little beyond the roots of his hair. In less than a week the same appeared on his chest and arms. It was believed at the time, and the same opinion is still entertained, that it was reasonable to attribute this to his illness, which was so severe as to lower his vitality very much, thus depriving nature of her ability to throw off the poison, with which power, when properly and judiciously assisted, she is fully credited. By taking means to restore his general health, and at the same time using mercurials and the

potash salts, with great care and in small quantities, he very soon was able to leave the hospital without any evidence whatever of syphilitic taint.

Secondary syphilis manifested itself in such a variety and in so many complicated forms of eruption, that it will only be spoken of in general terms. Every patient who was admitted with an eruption on the skin, scaly, pustular or otherwise, and who had at some time had a sore on his penis, was sure to answer, when asked what was the matter, that he had "secondary." If the character of the eruption excited suspicion, and upon thorough examination it was found that it had shown itself during a period not exceeding six months subsequent to the primary sore, and further that it had made its appearance first upon the forehead and then gradually extended to the trunk and limbs, it was looked upon as constitutional syphilis and so treated. In making the examination and arriving at a conscientious conclusion, great stress was laid, in the first place, upon the time that had elapsed between the first appearance of the chancre and the occurrence of the eruption. If it exceeded six months, it was not looked upon as syphilitic; in the second, which part of the body was first attacked—if the forehead and then the limbs and trunk, it was considered syphilitic, other things being equal. I have repeated these two points of diagnosis that the importance with which they are invested might be brought forward more prominently. So much value was placed upon them that, when the eruption was so unquestionably characteristic as to challenge all doubt, and the patient's history did not correspond with what has been above stated, he was freely credited with a misstatement, arising either from ignorance or want of observation.

To speak in general terms of the treatment adopted in this form of syphilis, I will say, that mercury seemed to agree far better in the scaly form of eruption than in the pustular; in fact it was rarely ever used in the latter. In either case, however, special pains were taken to restore the general health, it being considered absolutely necessary for any permanent result. Whenever mercury or iodide of potassium was used, it was administered in such a way as not to disturb the general functions.

As has been above mentioned, the system was considered per-

fectly capable, in a large proportion of cases, of ridding itself of the poison, if proper care was taken that the machinery worked in perfect harmony. With this idea in view, many cases of undoubted constitutional syphilis were treated and cured without a dose of what is generally deemed specific remedies. In those cases where neither mercury or the iodide of potassium was deemed expedient, the chlorate of potassa combined with the muriated tinct. of iron was used with the best results. The potassio-tartrate of iron also answered an excellent purpose. Good diet, cod-liver oil, malt liquors, the hypophosphites, and everything calculated to place the general system at the proper standard of health.

As for the tertiary form of the disease, I will simply mention it as manifesting itself in the shape of periosteal inflammation. A large number of cases of this kind were treated and in the following manner: From a grain, to a grain and a half of calomel, night and morning, combined with a small proportion of opium was administered until the gentlest possible specific effect was obtained. The iodide of potassium was then given in doses varying from two a half grains to five grains, three times a day, either combined or not, as the case seemed to require, with some tonic. The dose of the iodide of potassium was never increased beyond five grains. When the tenderness of the gums subsided—the iodide of potassium being continued—a grain, sometimes half a grain, of calomel was given at night, and kept up until slight pytalism again ensued. It was then stopped, only to be repeated in due time. This simple plan was continued until every evidence of disease disappeared, and in every case the result proved to be permanently successful. The iodide of potassium was never used in the large quantities that have been advised for the relief of the severe nocturnal pains which accompany this form of inflammation. A large proportion of the patients who came under observation had been subjected to the use of these large doses of the iodide, but while confessing that they derived some relief from their pains, acknowledged that it was but temporary, and much to the detriment of their general health.

It was more especially in this form of syphilitic inflammation that mercury seemed to exert its most striking and best effects.

Patients who, in outward appearance, seemed the last subjects of mercury—pale, emaciated, scarcely able to walk, dreading nightfall with the same degree of horror as the dying sinner his lot in eternity—when put upon and under the use of small doses of calomel, would, as it began to exert its influence, improve in color, nutrition and strength; while the severe nocturnal pains, which even the most immoderate use of opium failed to control, disappeared almost entirely.

With the idea already referred to, that the syphilitic poison sapped the constitution, just as malaria or any other intangible poison does, due attention was paid to the restoration of the general health.

Nodes, when soft, even giving a sense of fluctuation that seemed to indicate the presence of pus, were never opened; it having been observed that under the treatment above mentioned, they generally took much better care of themselves when not troubled with the knife.

Blisters were never used, nor was the tincture of iodine—neither was looked upon as beneficial, although they might be harmless. What seemed to give the most relief, was the enveloping of the affected part in a towel previously soaked in cold water, and then covering this with a dry one, the whole to remain on during the night. In some cases a teaspoonful of laudanum was poured upon the wet towel, and did much towards calming the pain.

To sum up the whole in a few words, those suffering with constitutional syphilis were looked upon as being impregnated with a poison, which was only to be permanently expelled by the maintenance of the powers of nature, and not by the indiscriminate use of specifics. Whenever it was deemed expedient to use either mercury or the iodide of potassium, it was given in such quantities and guarded by such scrupulous precautions, that no interference with the natural functions should occur.

In selecting for use from the salts of mercury, preference was given to calomel, it being considered more certain, safe and capable of being better managed. Where a slow, gradual effect was desired, the bichloride was sometimes used with very good effect, in doses varying from a sixteenth to a thirty-second of a grain two or three times a day.

Gonorrhœa, when seen at the very onset, was treated with balsams combined with appropriate mild injections. If some days had elapsed, the balsams were never resorted to. The treatment consisted simply of injections, proper attention of course being paid to the general condition. Strong injections were never resorted to. The one most generally used consisted two grains of tannin, and a drop of dilute nitric acid to the ounce of distilled water.

Gleet, when of long standing, was treated by injections of solutions of nitrate of silver, varying in strength from five to fifteen or twenty grains to the ounce of water, tonics, the muriated tincture of iron, etc. The solution was injected by means of a catheter syringe, having one small pin hole at its very extremity, and not on the side, as is generally the case. The point of irritation was generally found to be about the prostatic portion of the urethra, and to that spot a few drops of the solution were applied every day. As a rule, not more than three or four injections were required.

There were treated fractures of the humerus, ribs, femur and tibia. Fractures of the humerus were treated simply by the application of pasteboard splints on the outer and inner sides of the arm, the hand resting in a sling, the elbow allowed to hang free, so that proper extension might be made. No trouble was experienced in obtaining good results.

Fractures of the ribs were treated by the firm application of a broad strip of adhesive plaster around the thorax, to control the movements of the fragments, by securing, as far as was possible, abdominal respiration. Several cases had pleural complications, but the ordinary treatment soon disposed of it.

Fractures of the femur, when occurring in the lower two-thirds of the bone, were treated by Liston's straight splint, modified by a small horizontal foot-piece placed at right angles to it; from which extension was made by means of adhesive plaster attached to the leg, counter extension being exerted by an ordinary perineal band. In fractures of the upper third Smith's anterior splint was used, with excellent results; in fact, the greatest preference was given to this splint in fractures of this region. The proper amount of extension was always obtained, the fragments

kept in the best apposition, and more comfort afforded the patient than was ever obtained by any other apparatus. One case especially, with a distinctly oblique fracture a little above the middle of the upper third, recovered with so little shortening, that, with the sole of the boot on the affected side a shade thicker, his lameness is scarcely perceptible, except by the closest scrutiny. Starched bandages were not used much, except where it was of real importance that the patient should have exercise in the open air.

Fractures of the tibia were, for the first week or two, treated by what might be called a pillow splint. This consisted of a moss pillow well stuffed, and so scooped out as to leave a place for the limb to rest in, ordinary wooden splints being placed on each side of the pillow. The whole was made firm by tying it up with pieces of tape or bandage. This was found to be a most excellent and comfortable apparatus. It was used in preference to the fracture-box for this reason: it is light, and when the patient moves the limb, the whole moves together, and there is no jostling of the fractured ends, as would be the case in the cumbersome fracture-box. In due time the starched bandage and pasteboard splints were applied, and crutches furnished. In none of the cases did there appear any disposition to much displacement of the fragments. As a rule, the stereotyped plan of soaking the fractured limb either in cold water or some evaporating lotion, and continuing it for days, was not adopted. It was considered in a large majority of cases unnecessary, if not even detrimental. A certain amount of inflammation is to be looked for; upon it depends the cure; it is not apt to progress beyond the proper limits, unless the injury to the soft parts be more serious than is ordinarily the case in simple fractures, or there be something in the patient's system that predisposes to excessive action; and it seems obvious that means calculated to subdue that proper action which nature in her providence sets up, cannot do good. But even if no serious material harm is avoided by abstinence from lotions; at least the patient is saved the blistering and subsequent soreness of the skin which so frequently follow their use, rendering the application of the necessary splints uncomfortable if not positively painful.

When from nervous irritability the muscles of the affected limb became rebellious, and were constantly twitching in every direction, no effort at forcible extension was made, it being considered perfectly futile. The limb was placed, free from any apparatus, in a position most comfortable to the patient, and attention paid to the general condition. All the means calculated to equalize the nervous system were assiduously resorted to, and not until this object was attained was mechanical interference resorted to.

Generally the patients that came into the hospital were of that class whose vital powers were not at a very high standard. Although apparently stout and vigorous, when the system was called upon for reparative action,—nature gave ample testimony as to the heavy drafts upon her storehouse, to pay the penalty of their various excesses and reckless exposures. These patients, when suffering from fractures, were watched very closely, and if in from three weeks to a month that degree of union which should take place in that time had not occurred, means were taken to promote it. It was not waited for to see if perchance it might take place. Small blisters, repeated in rapid succession, were applied over the fractured point. Cod-liver oil, the hypophosphites, frequently the simple phosphate of lime, malt liquor, etc., were administered. Under this course ossification always took place rapidly, in point of fact, in some cases, it appeared to do so more rapidly than generally occurred under more favorable circumstances. It is quite certain that, had such patients been passed by carelessly, they would have remained for months without union, the long and tedious confinement lessening every day their chances for recovery.

There was but one case of compound fracture treated. This was of the tibia in its lower third, and, though, simple at first, it became compound, owing to the sloughing of the soft parts over the fractured point. It was treated at first with the pillow splint; then the excessive discharge necessitated the use of the fracture-box with bran,—and subsequently the starched bandage. Prefect union has taken place, and though no effort at extension was made, there will be but little deformity.

This case was one of the deepest interest, not so much on account of the fracture as the serious complication which accom-

panied it. He had been an habitual drinker for many years, and had on two previous occasions had slight attacks of delirium tremens. For two weeks before the receipt of his injury, he had been drinking to great excess, and had taken but little nourishment for three or four days, almost living upon alcohol alone. He was seen the morning after admission into hospital, having been brought there during the night,—and immediately ordered twelve grains of calomel and bicarbonate of soda, in broken doses of two grains every half hour. The next morning it had acted so very freely that it was not considered necessary to administer the usual saline, as sufficient disgorgement had taken place. Beef-tea, eggs, milk, etc., were given, and he took quite an allowance with apparent relish. Notwithstanding this favorable turn, he manifested towards evening symptoms of delirium; but they were mild, and as he had been thoroughly disgorged and had taken nourishment, it was not feared that it would assume a serious form. Of one grain of tartarized antimony and morphia in four ounces of camphor water, a tablespoonful was ordered to be given every two hours. Although the first three doses seemed to quiet him and promised the securing of a good night's rest, he grew gradually worse during the night, and by morning was so perfectly furious as to require the use of the straight jacket. When seen at the morning visit, at nine, A. M., his pulse could scarcely be counted, and despite his shackles, it required the united strength of three stout men to prevent the entire demolishment of his injured limb.

The solution of tartar emetic and morphia was stopped, and the inhalation of chloroform, carefully guarded, was resorted to, but only to be almost immediately abandoned, as it threw him into violent spasms and rendered him nearly pulseless. He was then at once ordered an ounce of tinct. digitalis, of which a teaspoonful was to be given every two hours, until sleep was procured. It was neck or nothing with him, and there was no hesitation felt in giving such directions. He was seen at eight o'clock in the evening, just after the sixth teaspoonful had been given. His pulse had subsided remarkably, being scarcely 90, skin and tongue pleasantly moist, and his mind much clearer. He was perfectly docile, and answered questions intelligently. He said

he felt an inclination to sleep, and directions were given to his nurse to discontinue the digitalis so long as he remained quiet, but to resume its use as before should he evince any of his former symptoms. At half-past eight he fell into a pleasant slumber, which lasted until towards morning, when he awoke, as the nurse stated, quite restless, and was given the seventh dose. When seen at nine, A. M., he was in a calm, natural sleep, with a good, full, natural pulse, and so continued until late in the evening; then again becoming restless and wayward, the last remaining dose was given. This finished the business. His sleep during the night was undisturbed, and lasted until the afternoon of the next day, when he awoke perfectly rational and called for nourishment. His pulse could not have been better, the skin was pleasant, tongue moist, bowels sufficiently free, and the urinary secretion in perfect order. From this time no trouble was experienced with him. Under the most favorable circumstances his compound fracture could not have done better. Special reference has been made to this case, to bring prominently forward the undoubted good effects of the digitalis, as well as its perfect safety in all cases of a similar nature.

Of dislocations, there occurred cases of the humerus, hip and jaw. There was but one variety of dislocation of the humerus, viz: downwards into the axilla. The majority of the cases were recent, but there was one case of a month's standing, one of five weeks, one of six weeks, and one of three months and twenty days standing. The following was the method of reduction:

The patient was first put upon the use of tartar emetic until gentle nausea ensued, then chloroform was administered until perfect relaxation was obtained. He was placed in a sitting posture,, either in a chair or on a low couch; a wet towel was so bandaged to the arm as to leave a loop for the assistants to make extension; a sheet was put around the chest, by means of which counter extension could be exerted; and the operator proceeded with his knee in the axilla and the ball of the thumb pressed firmly against the acromion, the foot resting against the edge of the chair or couch. As soon as the proper amount of relaxation was obtained, the assistants were directed to make a slow, steady

pull, and when the contraction of the opposing muscles was overcome, by making use of the humerus as a lever, the knee being a fulcrum, the head of the bone was thrown into its natural position. This plan of reduction was the only one resorted to. The facility with which the scapula was held firm by the hand upon the acromion, and the immense lever power afforded by the shaft of the bone, were considered recommendations sufficient to accord it the preference.

The only case in which the pulleys were used was the one of nearly four months' standing. The same method of reduction was employed in this case as in the others, except the mechanical substitute, and with perfect success.

The arm was generally kept in sling for three or four days—not longer; then the patient was directed to make cautious use of it. It was found much better to have them make early movements of the joints. In none of the cases was there any subsequent inflammation, except in the old case of four months; but it was of a mild character and only lasted a short while.

There was but one dislocation of the hip, upwards and backwards on the dorsum. This was of several weeks' standing, and notwithstanding anchylosis of the knee-joint, was reduced by manipulation. It is true the knee had not anchylosed in the straight position, but was slightly flexed and twisted a little outwards. This rendered the manipulating process somewhat more easy than it would have been otherwise. Manipulation was most emphatically advocated, in preference to the pulley, in this form of dislocation, no matter of how long standing. It was considered that much more force in the proper direction could be exerted and much less violence committed.

There was also but one case of dislocation of the jaw. It was of seven week's duration, and was reduced in the ordinary way, by placing the thumbs at the roots of the coronoid processes, pressing downwards and backwards, and elevating the chin with the fingers. The accident had occurred during the act of vomiting, and the patient was in a region where surgical assistance could not be obtained—until a month after it happened. An effort at reduction was then made, but without success, when she applied to me for relief. She remained in town for three days

after the operation, and then was forced to return to the country. Having received proper directions as to the necessary precautions to be observed, and not having been heard from since, it is presumed that no further trouble was experienced.

There were no cases of compound dislocation treated in the hospital, but one interesting case of compound dislocation of the ankle came under my charge outside, of which brief mention will be made.

The patient, a stout, vigorous young man, aged about twenty years, in jumping from a runaway horse lighted upon a cobble stone, and so turned his left foot as to throw the tibia out of joint and through the skin. He was seen about half an hour after the accident. The foot was almost at right angles to the leg, the bone protruding for several inches. Notwithstanding the severity of the injury, he did not manifest a corresponding degree of shock, and being in full vigor of health, the case was undertaken with cheerful anticipations, which, it is a pleasure to state, the result has realized. Chloroform having been administered, gentle, steady extension was made by the assistants, while with the handle of an ordinary silver spoon, slipped carefully under the portion of skin overlapped by the bone—its shaft resting upon the bone—and used as a lever, the reduction was effected without the slightest difficulty.

The wound appeared to be so cleanly cut, and the patient was in such good condition, that an effort was made to secure its healing and convert the injury into a simple dislocation, by carefully bringing its edges together. The ordinary means to keep the foot in proper position were employed, and to control any inflammatory action constant irrigation was kept up over the joint. Although destructive inflammation was arrested, the soft parts over the internal malleolus proved to be so severely contused that quite a slough came away, exposing to a great extent the cavity of the joint, thus disappointing our first hopes. Pus subsequently burrowed up the limb and with the most remarkable rapidity—it was fortunately confined to the subcutaneous cellular tissue. Early and free incisions were made for its escape. Notwithstanding this it still tended to progress upwards, and it was thought that material aid in arresting it was afforded by the use of com-

presses confined by adhesive plaster. At the present writing, seven weeks from the date of injury, the patient is doing excellently well. The heads of ankle bone are perfectly intact, and he will undoubtedly have a very good foot. In connection with this case, I would call special attention to the manner of reducing the protruding bone; which, it is hardly necessary to state, is quite as applicable to compound fractures with similar protrusions. By adopting the method employed in this case, there will rarely, if ever, be any necessity for sawing off the exposed portion of bone or slitting the skin.

There were three amputations performed—one of the thigh, one of the leg, just below the knee, and one secondary amputation of the leg, for the relief of an ulcerated stump.

The amputation of the thigh was performed for bony anchylosis of the knee-joint, in a bent position, with subluxation of the femoral condyles inwards. The joint had been laid open several years previous by a heavy blow with a large broad-axe, which probably severed the crucial ligaments. Not receiving very strict attention after his mishap, he became the victim of a deformity which rendered his limb a constant burden. His solicitations to have it removed were most earnest, and, after due deliberation, amputation just above the knee was determined on in preference to any conservative means. It was considered that in his case an artificial limb would be of far more service than the natural one, if perchance any such attempt to preserve it should have succeeded; and furthermore, that the risk would be no greater, if as great; for in the present impoverished condition of the hospital, the dangers of long confinement, extensive suppuration, etc., are not to be carelessly overlooked. The antero-posterior flap operation was performed, and he did excellently well for three weeks after, when symptoms of pyæmia were manifested as suddenly as they were unexpected, and in spite of every endeavor to save him, he died during the fourth week. Post-mortem examination revealed the presence of pus extending for several inches up the cavity of the bone, and also infiltrated in its cancellated structure. The apex of one lung was pretty thoroughly studded with tuberculous deposits, otherwise his whole organism appeared to be in a healthy condition.

The amputation of the leg was performed for an ulcer, extending from the ankle to within a few inches of the tuberosity of the tibia. No time was lost in determining upon the propriety of amputation. The ulcer was painful, discharging large quantities of thin, ichorous matter, and although the patient was pale, emaciated, with a rapid, feeble pulse, without appetite, it was speedily observed, that any means to build him up, however well-directed, was seriously overbalanced by the pain and excessive drain to which he was hourly subjected, and only involved the loss of valuable time.

The borders of the ulcer were so defined as to admit of the flap operation, but, as has always been the practice in the wards, preference was given to the circular method, as giving the best stump, and securing the patient against the evil effects which have so often been observed to follow the flap operation. When carried from the operating table and placed in his bed, he had a much better pulse than before the operation, and from this time began his improvement, which was uninterrupted. In due time he was discharged, in better health than he had been for eighteen months. He had been relieved from an incubus which was weighing him down, and it did seem that nature, truly thankful for the good riddance, rallied her forces with an alacrity and vigor scarcely to be looked for. But I will state, that with all the apparent disadvantages, such cases, as a rule, do far better than when the same extreme measures are taken for the relief of patients in vigorous health, suffering from the effects of destructive injuries which have produced a sudden and severe shock to the system. If an opportunity to amputate while the patient is under the shock be offered, no better period could be chosen. By refraining from annoying, by the indiscriminate pouring in of alcoholic stimulants, the stomach, which in this condition of shock is quite uncertain as to absorbtion, while it may be even disturbed, and instead, using an enema of carbonate of ammonia just as chloroform begins to manifest its effects, the object desired is obtained much more speedily, more satisfactorily, and last, but not least, with much less detriment to the patient. With this simple precaution, the addition of the shock of the operation to the already existing shock of the injury, amounts to but little

if anything, and the patient is placed in the best condition for recovery. However this opportunity is seldom or ever afforded. The patient is rarely ever seen until several hours after the receipt of the injury, when reaction has set in. To attempt operative procedure at this stage would be as inhuman as the casting loose the drowning man's grasp upon the friendly shore, which his frantic efforts had enabled him to reach. Far better to wait. When suppuration has fairly ensued, and the drain seems to counterbalance the efforts of nature, which are supposed to have been, in the meanwhile, properly sustained, then amputation can be resorted to with the same degree of confidence as was felt in the case of ulcer just cited.

The patient who presented himself for treatment for ulcerated stump, had had his leg amputated during the war on account of gunshot wound. The flap operation was performed, and although made perfectly well, the large muscles of the calf, which form the greater portion of the flap, by their constant contractions, kept him in a state of perpetual uneasiness. The skin over the tibia gradually thinned and eventually ulcerated. For this reason especially is preference always given to the circular method or else the oval skin flap. Notwithstanding the patient was, to all appearances, stout and healthy, the operation was undertaken with a degree of reluctance which elicited every care and precaution, it having been observed that the procedure subjects such patients to the same risks as primary amputation; indeed, in quite a number of instances it has seemed to be greater. It is impossible to determine how long it takes the system to recover from the deep impression made upon it by the severe injury and subsequent operation, and in this case ample testimony was given as to the correctness of this practical observation. Although he recovered with an excellent stump, he suffered very much, and required the most careful and constant watching for several weeks.

It so happened, that in two of the three cases of amputation bleeding occurred in the shape of a general oozing from the cut surfaces, notwithstanding the stumps were not dressed until every evidence of hæmorrhage had disappeared. This oozing of blood occurred in both about eight or ten hours after the operation. The sutures were immediately cut, the stumps opened, and after

the clots of blood were carefully removed, pledgets of lint, thoroughly wet in a saturated solution of ferric alum, were freely applied to the bleeding surface. No difficulty was experienced in arresting the hæmorrhage, and it was considered that the styptic, besides doing this service, exerted a very material influence upon the subsequent healing process by its beneficial action on the tissues. In one of these cases, that peculiar *gasterrhœa* which so frequently occurs after capital operations and the free use of chloroform, took place with a considerable degree of violence. Stimulants, opiates and the ordinary anti-emetic medicines were freely administered during the night, but as has always been observed to be the case, they proved to be worse than useless. When seen at the regular morning visit, he could retain nothing on his stomach, incessantly vomiting large quantities of vitiated secretion; his pulse was feeble and rapid, and his countenance was most anxious and depressed. Without delay he was ordered eight grains of calomel, to be given in grain doses every fifteen or twenty minutes. He had not taken the sixth grain when the vomiting ceased, and with this occurred the most remarkable change for the better in every other respect. Small doses of sulphate of magnesia were given every hour until the bowels were gently moved, and this was all. He took light nourishment during the night, and in the morning was found partaking of an ample breakfast with good relish. The inestimable benefit of calomel, given in the small doses above indicated, in such conditions, which are far from being of seldom occurrence, cannot be too much extolled. In all operations where anæsthsia was necessary chloroform was used—ether was never resorted to. The administration of the chloroform was always preceded by a stiff toddy of either brandy or whisky, or, as mentioned before, an enema of carbonate of ammonia, it being considered that it did away with some of the risks, and that the patient went under its influence more kindly. It was also made an object to bring the patient as rapidly as possible under its influence, rather than allow him to take it slowly and in small doses. It was considered that by so doing the operator was not only spared many annoyances, but the patients escaped the bad effects which follow its gradual administration, while no additional danger was entailed.

Although it was used many times each month, no disagreeable results occurred.

Two cases of tetanus were treated, both traumatic, resulting one from wound of the head, the other of the face. The symptoms of tetanus manifested themselves in one case in one week, in the other, three weeks after the receipt of the injury. The disease was looked upon as one having a certain defined course to run, and no active treatment was attempted. The patients were placed quietly in a bed, protected from the light by thick curtains, and every possible care taken to preserve them from all sources of disturbance. When approached, it was done most gently, in such a way as not to startle them. Opium, in the form of *black drop*, combined with camphor, was administered in such quantities as to keep them moderately under its influence, and milk punch, beef-tea, eggs, etc., were given without stint. In neither case were the jaws so closely locked as to interfere with the administration of the medicine and food by the mouth. Had it been so, or had the act of swallowing tended to bring on spasms, the rectum would have been employed. The bowels, when inactive, were moved either by a gently stimulating enema or by the mildest laxatives. Both cases recovered under this simple management—one in three, the other in five weeks.

Indolent ulcers of the leg, of long standing, were treated as a rule, by strapping and bandaging, the ulcer having been first properly stimulated in the ordinary way. The chloride of zinc, ten grains to the ounce of water, was a favorite stimulant in these cases. A due amount of rest was required, and attention paid to the general health. To prevent that excoriation of the surrounding skin, which so frequently accompanies the use of the adhesive plaster, great advantage was found in the washing of the skin before each application, with a solution of nitrate of lead, twenty or thirty grains to the ounce of water. After a sufficient amount of action had been obtained by the use of such strong stimulants as the chloride of zinc just mentioned, preference was given to the sulphate of copper, two grains of the salt to the ounce of water—never any stronger. Many cases occurred of ulcerated legs, beginning by the formation of small blisters, which after breaking, left ulcers more or less superficial. These ulcers

would frequently heal of themselves, but only to break out again in a short while. In such cases nothing seemed to produce a more rapid and permanent cure than the solution of twenty grains of nitrate of lead to the ounce of water, with which the limb was to be thoroughly washed, morning and evening.

In a large proportion of the irritable ulcers, more especially those which assumed the serpiginous form, healing on one side while seeming to eat their way on the other, and producing a sensation as though some corroding substance was at work, the greatest possible advantage was derived from the application of what is generally called Magendie's desiccating ointment. The formula by which it is prepared is as follows: Ten grains of metallic iodine, thirty grains of calomel, well rubbed up together, and one ounce of cerate added. The salve being spread lightly upon a piece of soft linen, is laid over the sore, and allowed to remain for two or three hours. At first it produces some degree of pain, but in a short while it subsides, and with it the torture to which the sufferer has been subjected night and day. After this application, the ulcers, as a rule, were completely changed in character, and with the ordinary simple treatment healed without difficulty. Sometimes two, three, and even four applications were required. In one case of exceedingly irritable ulcer, which resisted every treatment that could be devised, both local and constitutional, *Cayenne pepper, pure*, was freely sprinkled into it, and with the best results; in a few hours perfect relief was obtained. The application of the pepper only produced a sense of heat—not amounting to positive pain. The ulcer was not of that character to which the pepper had previously been found to be peculiarly applicable, but every other means having failed to give any relief whatever, it was resorted to as a forlorn hope, and its good results in relieving the severe, agonizing pain, and changing so materially for the better the character of the ulcer, entitles it to the most favorable consideration of the profession. Unguents, as a general rule, were not much used. If it was deemed expedient to use a soothing, and at the same time gently astringent salve, preference was given to the oxide of zinc ointment. If a gentle stimulating effect was desirable, the resin ointment, generally diluted with equal parts of simple cerate, was used. The only

form of cutaneous disease treated was eczema. Locally mild applications, calculated to relieve the burning and itching, were used; such as weak alkaline washes, with small quantities of morphia, the oxide of zinc ointment, etc. Constitutionally, such tonics as were calculated to establish vigorous health, with minute doses of arsenic and iodine, were used. Not more than an eight to a sixteenth of a grain of iodine, with three or four drops of Fowler's arsenical solution, were used twice a day; frequently less quantities were administered, and the medicine continued for some length of time.

ART. VIII.—*Surgical Memoranda:* By Prof. T. G. RICHARDSON, M. D.

1. *Gunshot Wound of the Membranous Urethra Resulting in Complete Occlusion, of Five Years duration. Perineal Section; Cure.*

MR. F. R., of the C. S. A., was wounded at the siege of Vicksburg, in the spring of 1863, by a fragment of shell, which entered the anus obliquely from behind, slightly notching the sphincter upon one side and burying itself deep in the perineum. The foreign body having been immediately removed, the first effort to empty the bladder showed that either the neck of this organ or the urethra had been divided, as the whole of the urine escaped through the wound. But little constitutional disturbance ensued, and as no catheter was used the urine continued to be passed through the artificial opening into the rectum, and thence, by the same effort out at the anus. The wound in the mean time granulated and contracted, leaving a small fistulous opening communicating with the lower end of the bowel.

The patient was brought to the city and placed in my ward by my friend Dr. J. E. Wright, of Columbia, La., who informed me that notwithstanding repeated and careful examinations, he could not discover the outlet of the sinus, on account of its very small size and the corrugated condition of the mucous membrane of the rectum; although it was quite evident to him that it was not more than three or four lines within the verge of the anus.

Upon introducing a catheter, I found the point of the instrument could be carried a very short distance beyond the bulbous urethra, where it encountered an abrupt obstruction. The patient had complete control over his bladder, which he emptied by the anus at the usual intervals, not a drop of urine having passed the meatus since the time of the accident. He had also, occasionally, seminal emissions which followed the same course. Externally, there was not the slightest evidence of wound of the perineum.

The facts just stated; namely, the perfect control of the sphincter of the bladder, the healthy condition of the seminal function, and the ejection of the spermatic fluid through the fistula, and the ready penetration of the catheter a little way beyond the bulb, established conclusively the situation of the obstruction in the membranous urethra; and the inability from the outset to pass the smallest portion of urine along the natural way led to the inference that the canal had been entirely severed.

To re-establish the natural passage, two procedures suggested themselves. 1st. To divide the obstructing cicatrice from within by means of a lancet shaped urethrotome; and, 2d. To perform the perineal section and heal the parts over a catheter. The former being considered somewhat hazardous, the latter was adopted. The operation was performed in the presence of the Medical Class of the University, and a minute account of it is not necessary here. Suffice it to say, that with the forefinger of the left hand in the rectum pressing upon the apex of the prostate gland, and a large sized staff held in the urethra by an assistant firmly against the obstruction, an incision was made in the middle line of the perineum directly down to the point of the staff, and thence carried backward toward the end of the finger. The urethra behind the cicatrix having become considerably dilated in consequence of the repeated pressure to which it had been so long subjected by the efforts of the bladder, was reached by the knife without the slightest difficulty, and the staff pushed on into the bladder. A silver catheter was then substituted for the staff, and allowed to remain in place two or three days, when it was withdrawn, on account of the inflammation which it occasioned in the spongy urethra. An abscess in the

latter situation followed, and in due time was opened, and in the mean time a female catheter was inserted through the perineal wound into the bladder, and maintained in position by means of proper fastenings. As soon as the condition of the parts would admit of it, the latter was withdrawn, and the male catheter introduced, by the natural passage, at regular intervals.

Having entire confidence in the skill and good judgment of Dr. Wright, and feeling well assured that the desired result would be secured, I now permitted the patient, after two weeks' sojourn in the hospital, to return home, with directions to continue the use of the catheter, at gradually increasing intervals, for several weeks or months. Since then I have heard from Dr. Wright that the fistula resulting from the abscess and the wound of the perineum have both entirely closed, and the natural functions of the urethra been fully restored.

2. *Compound Fracture of the Lower Jaw, treated with Bean's Interdental Splint.*

Mary R., a stout Irishwoman, applied as an out-door patient at hospital, March 1, for injuries about the face, produced by falling head foremost down stairs upon a brick pavement. Examination showed complete division of the upper lip into the left nostril, and oblique fracture of the inferior maxilla upon the corresponding side of the symphisis. The fragments of the broken jaw were not in apposition but overlapping, one of them having been evidently driven in by the fall, producing great laceration of the gums. With some effort the broken ends were reduced and brought into contact; but owing to the obliquity of the line of fracture and the contraction of the muscles attached to the longer fragment, displacement recurred so soon as the hands were removed. Several and various attempts to keep the parts in proper position having failed, it was determined to stitch the wound in the upper lip, and after this was healed to have an interdental splint applied to the fractured bone, the parts being in the mean time gently supported by a compress beneath the chin, confined by a bandage over the head. The lip having completely united in the course of four of five days, the patient was taken to Dr. J. E. Kells, dentist, who took the necessary casts and constructed

upon them an interdental splint of vuleanized rubber. By this means the fragments were brought into perfect apposition, and so maintained for three or four weeks, at the end of which time complete union had taken place.

The interdental splint, it may not be generally known, was invented by Dr. J. B. Bean, dental surgeon in the Confederate States Army, and is one of the most valuable additions made to the surgical *armamentarium* during the past ten years. A detailed account of its preparation may be found in the New Orleans Medical and Surgical Journal for November, 1866, by Dr. Warren Stone, Jr. I take the liberty of also stating that Dr. Kells will cheerfully demonstrate the process to any one who may call upon him.

3. *Cystic Tumor of the Lower Jaw. Removal of the larger Part of the Body of the Bone.*

J. F., æt. 18, from Batesville, Miss., entered Prof. Stone's wards in the Charity Hospital, December 7, 1867, for tumor of the lower jaw. The disease was ascribed to a blow received upon the chin two years previously, since which time the bone had been steadily enlarging. Upon examination by Prof. Stone and myself, the enlargement was found to involve both the alveolar and basilar divisions of the bone, from the symphisis to within a short distance of the ramus upon the right, and to the first large molar tooth upon the left side. The tumor thus formed did not exceed the size of a pullet's egg, but projected almost altogether towards the cavity of the mouth, where it interfered very uncomfortably with mastication and the movements of the tongue. It had never been the seat of any considerable pain, and there was no evidence whatever of contamination of the cervical lymphatic glands or of any constitutional cachexy. Under firm pressure it was ascertained to consist of a thin shell of bone enclosing a semi-solid elastic tissue.

Taking thus into consideration the situation of the growth, its painless character, its comparatively slow increase, its semi-fluid consistence, the absence of any local or constitutional contamination, and its indisposition to ulcerate, the disease was unhesitatingly pronounced cystic tumor of the bone, most probably of the

myeloid variety. Removal by the knife was therefore advised, with the assurance that a return would not be likely to occur, as such tumors seem to be generally benign.

By the request of Prof. Stone, I performed the operation, in the presence of the medical class of the University, with the assistance of Dr. Warren Stone, Jr., and others, on the 9th of December. The method pursued, after placing the patient under the influence of chloroform, consisted in dividing the skin by a single curved incision along the base of the jaw, extending nearly to the ramus on each side; dissecting back the soft parts in front and below; and then dividing the body of the bone, by means of a small saw, a short distance beyond the limits of the enlargement. This having been done, and a ligature passed through the tongue and confided to an assistant to prevent retraction of the organ and consequent suffocation, firm traction was made upon the mass at one end, and its separation rapidly effected by dividing the mylo-hyoid, genio-hyoid and genio-glossal muscles close to their bony attachments.

The operation was accompanied and followed by a frightful hæmorrhage, the blood welling up from numberless vessels too small to be secured by ligatures; but by the free use of iron alum and filling the gaping wound with broken ice the flow was gradually arrested, but not until the patient was apparently almost exsanguineous. It was now also found that one of the sawn ends of the bone presented an unhealthy appearance, and the further removal of half an inch became necessary; but this was readily effected by the use of cutting forceps. After reaction had been established by means of frictions, hot bricks and stimulants, the edges of the wound were brought together with twisted sutures, and the point of the tongue confined outside of the mouth by attaching the ligature to a strip of adhesive plaster placed upon the chest. This latter precaution was absolutely necessary, for it was found by experiment that as soon as the traction was relaxed the organ was drawn back into the throat and threatened suffocation. By careful attention upon the part of Mr. Watkins, the student of the ward, the case did well, and at the end of three days, the patient being able to control his tongue, the ligature was removed. The sutures were removed upon the fourth and fifth days, entire

union having taken place, and in twelve days from the time of the operation the patient returned home.

Examination of the tumor subsequent to its removal proved the correctness of the diagnosis, for notwithstanding the close resemblance of the contents of the bony cyst to the brain-like substance of medullary cancer, the microscopic elements were those of myeloid tumor. In farther proof of its benign nature, it may be stated that it is now six months since the operation, and there is not the slightest evidence of any disposition to a recurrence, which would scarcely be the case in encephaloid.

4. *Traumatic Epilepsy treated by Trephining.*

Ben Smith, twelve years of age, from Opelousas, La., came under my care in March, 1868. He was struck, December, 1866, in the middle of the forehead by the end of a heavy rail, which bruised the soft parts, but did not break the skull. An abscess ensued at the site of the injury, which, upon being opened, continued to discharge for two or three months. During this time there was no symptom of cerebral disturbance, but about two months after the closing of the abscess, a severe epileptic spasm occurred early in the morning, and repeated itself at night, for several succeeding days. The spasms then became less regular, but invariably returned after an interval of three or four days, when three or four attacks would occur during a single night. For several months past one or more slight movements, (what French writers denominate *petit mal*,) have taken place *every night*, alternated about every third or fourth night by a severe spasm *(grand mal.)*

Upon examination, I found a slight scar indicating the situation of the original injury and abscess, but not the slightest depression or roughness of the bone could be detected. The cerebral functions were slow and uncertain, the expression of countenance rather stupid, and the father informed me that the boy's memory was wholly unreliable; but otherwise there seemed to be no great change in the mental faculties.

The patient having been already submitted by his attending physician at home to the usual courses of treatment, including the free use of the bromide of potassium, I concluded, as a last resort,

and at the earnest solicitation of the father, to apply the trephine, suspecting that there might possibly be a slight exostosis upon the inner aspect of the skull, or some thickening of the dura mater. In this opinion and conclusion I was sustained by Prof. Stone, to whom the case was submitted. On the 19th of March, in the presence of my distinguished colleague just mentioned, and Dr. B. H. Moss, the patient having been placed under the influence of chloroform, I applied the crown of a large-sized trephine immediately to the left of the middle line of the forehead and about an inch above the superciliary ridge. The disc of bone thus removed presented upon its inner surface no appearance whatever of change of structure; nor did the dura mater seem to me to be materially altered, although Prof. Stone expressed the opinion that it was more opaque than normal, and slightly thickened. There was, however, a considerable accumulation of serum in the arachnoid sac, which, whenever the child screamed, formed a prominent swelling in the bottom of the wound. So tense indeed did this swelling become under these circumstances that the dura mater which had been barely scratched by the trephine, gave way during my absence about half an hour afterward, and upon my return, I found the serum running down upon the face; but it was impossible even to conjecture with any accuracy how much had escaped. As soon as this accident occurred, the patient, who had been screaming at the top of his voice ever since the effect of the chloroform had passed off, became suddenly calm, and never uttered another cry. The wound having been left open in consequence of a little hæmorrhage, was now closed by approximating the edges of the flap with two points of interrupted suture, and a small tent inserted at its lower angle to serve as a drain for the serum and subsequent effusion.

The succeeding night three or four slight spasms were observed, but the patient slept well, and the next morning expressed himself as feeling quite comfortable. A grain of calomel was ordered to be given twice a day with a view to its constitutional effect, but was discontinued after three or four days, and bromide of potassium, in thirty-grain doses morning and evening, substituted. Since the first night, now more than two months ago, no spasm has

taken place; but it is proper to add that the tent in the wound is still used, and the patient continues to take the bromide of potassium.

In reporting this case I am fully aware that sufficient time has not elapsed to test the permanency of the relief, but as there has been a marked improvement in the mental faculties, evinced by the brightening of the countenance, increasing cheerfulness, and vivacity, I am encouraged to hope that the favorable change may prove permanent. The further history of the case, be what it may, shall be reported in the next annual publication, if not before.

ART. IX.—*Medical Memoranda:* By S. M. BEMISS, M. D., Prof. Theory and Practice of Medicine, etc.

THE following tabulated list represents the gross number of cases treated in wards 18, 19, and 21 during the term of lectures, with the addition of several patients sent me from other wards or from private practice. The nosological arrangement is according to the classification of Dr. Farr:

CLASS.	ORDER.	ADMITTED.	DIED.	DISCHARG'D	IN HOSPITAL.
1—ZYMOTIC DISEASES		114	13	97	4
	I.—*Miasmatic Diseases*—				
	Intermittent fever	48		48	
	Remittent fever	2		2	
	Typhoid fever	1			1
	Yellow fever	9	3	6	
	Acute Dysentery	10		10	
	Chronic Dysentery	2	1	1	
	Acute Diarrhœa	7		7	
	Chronic Diarrhœa	8	1	5	2
	Epidemic Cholera	12	8	4	
	Erysipelas	2		2	
	Total	101	13	85	3
	II.—*Enthetic Diseases*—				
	Gonorrhœal Rheumatism	1		1	
	Syphilitic affections	5		4	1
	Total	6		5	1

CLASS.	ORDER.	Admitted.	Died.	Discharg'd	In Hospital.
Zymotic Diseases *Continued.*	III.—*Dietetic Diseases*—				
	Alcoholism	5		5	
	Mercurialism	1		1	
	Total	6		6	
	IV.—*Parasitic Diseases*—				
	Scabies	1		1	
II.—Constitutional Diseases.		28	2	17	9
	I.—*Diathetic Diseases*—				
	Acute Rheumatism	5		5	
	Chronic Rheumatism	5		1	4
	Anemia	3		3	
	Total	13		9	4
	II.—*Tuberculous Diseases*—				
	Pulmonary Tuberculosis	13	2	7	4
	Scrofula	2		1	1
	Total	15	2	8	5
III.—Local Diseases.	I.—*Nervous System*—				
	Hemiplegia	4		1	3
	Neuralgia	2		1	1
	Delirium Tremens	3		3	
	Chorea	1			1
	Traumatic Tetanus	1		1	
	Epilepsy	3		1	2
	Total	14		7	7
	II.—*Circulatory System*—				
	Valvular Disease of Heart	6	2	4	
	Thrombosis	1	1		
	Total	7	3	4	
	III—*Respiratory System*—				
	Pneumonia	7	5	2	
	Acute Bronchitis	2		2	
	Chronic Bronchitis	1		1	
	Laryngitis	2		2	
	Acute Pleuritis	2		2	
	Chronic Pleuritis	1		1	
	*Œdema of Glottis	1			
	†Œdema of Lungs	1			
	Asthma	1		1	
	Emphysema	1			1
	Total	19	5	11	1

* Died of Pneumonia. † Died of Bright's Disease.

CLASS.	ORDER.	Admitted.	Died.	Discharged	In Hospital.
Local Diseases *Continued.*	IV.—*Digestive System*—				
	Dyspepsia	1		1	
	Gastro-Duodenitis (catarrhal)	2		2	
	Jaundice	1		1	
	Hepatitis	1		1	
	Tonsillitis	1		1	
	Ascites	4	1	3	
	Total	10	1	9	
	V.—*Urinary System*—				
	Albuminuria	2	2		
	Diuresis	2		2	
	Total	4	2	2	
	VI.—*Generative System*—				
	Seminal Losses	1		1	
	VII.—*Locomotive System*—				
	Synovitis	2		2	
	VIII—*Integumentary System*—				
	Eczema	1		1	
IV.—Developmental Diseases.	IV.—*Diseases of Nutrition*—				
	Lardaceous Liver and Spleen	1			1
	Grand Total	201	26	141	22

The Zymotic diseases exhibited their usual importance, both as respects the high rank of the figures by which they are represented in the mortality list, and as affording interesting examples for clinical study.

The Periodic Fevers included but one case so irregular, or malignant, as to justify its classification among the "pernicious" forms. I think this case was properly diagnosed as "malarial coma" by Mr., now Dr., Kelly. The patient had two paroxysms, occurring upon alternate days, marked by unconsciousness, heavy breathing and struggling pulse. Rapidly induced cinchonism prevented a third return, and the patient left the hospital on the second day after admission.

In the aggregate, the cases of malarial diseases admitted to hospital were attended, in more than the ordinary proportion of instances, with enlargement of spleen, anæmia and disposition to

recur. The prominency of these clinical features rendered the prescription of iron, arsenic and strychnia frequently necessary. Efforts were made to designate the cases for which each of the remedies above enumerated was considered specially appropriate. Chalybeates were obviously indicated to restore impoverished blood. Arsenic was considered specially adapted to cases marked by periodic neuralgias; but was also prescribed as antiperiodic where the return of paroxysms was not prevented by quinine. Strychnia was likewise sometimes given as an antiperiodic; but more often with a view to its influence as a direct and powerful nerve tonic. It was therefore given preferably in those cases in which the recurrence of the paroxysms seemed ascribable to impressions stamped by force of habit, or otherwise, upon the nervous system. In no other manner does it seem reasonable to account for the periodicity, marking, in after life, the diseases of persons who have for a considerable time been the subjects of malarial influences.

It may be profitable to those who failed to copy the prescriptions from the ward-books, to mention some of the formulæ employed in the treatment of periodic diseases and their sequelæ. When speedy cinchonism was sought, the house solution of quinine, containing five grains quinine and ten drops tincture of opium to each ℥i, was exhibited in from ℥i to ℥ii doses until this end was accomplished. Iron was given in combination with quinine in the following forms: ℞. Citrate of iron and quinine, ʒii; infusion gentian, ℥iv. M. S. Tablespoonful thrice daily. ℞. Ammonio-sulphate iron; sulphate quinine aa. ʒii; aromatic tinct. sulph acid, ℥i to ℥ii; water ℥ii. M. S. Teaspoonful or dessert-spoonful thrice daily, or every fourth hour. (Prof. Mallet.) ℞. Precip. carb. iron, sulph. quinine aa. ʒii; pulv. rhubarb ʒi. Divide in twelve powders. S. One thrice daily. ℞. Sulph. quinine, sulph. iron aa. ℥ss; extract nux vomica, ʒi; pulv. aloes, grs. xv. M. Divide in twenty pills. S. One thrice daily. Arsenic was given in Fowler's solution, gtt. vii to xii thrice daily. Strychnia in Marshall Hall's solution. ℞. Strychnia gr. i; dilute alcohol ℥i; acetic acid gtt. xv; water, ℥vii. M. S. Twenty to thirty drops thrice daily.

The frequency of blood deteriorations, as a prominent charac-

teristic of the periodic diseases of 1867, may account for the many cases of malarial hematuria reported in different parts of the South. Letters have reached me, and students have applied, asking opinions in reference to the pathology and treatment of this alarming manifestation of disease. It has seemed to me that its cause must be found in one or more of three pathological states. First, alterations of the blood itself, favoring its extravasation; second, physical obstruction from stasis or congestion; third, impaired nutrition of the capillary walls, rendering their rupture abnormally easy. The frequent occurrence of capillary engorgements and areolar infiltration proves that the blood is liable, under malarial influences, to undergo alterations affecting its properties as a circulatory and osmotic fluid. Congestions are a part of the phenomena of every paroxysm of malarial fever. The more easy rupture of capillary walls in cases marked by considerable or long existing impairment of nutritive processes, is not only an inferential event, but is proved by the readiness of sanguineous extravasation after bruises or the application of dry cups. The best teachings of pathology justify the conclusion that capillary rupture is essential to the occurrence of hæmorrhage, therefore the effects of impaired nutrition upon the renal blood vessels, in weakening their capability of resisting pressure, must prove the most important factor in the production of hematuria. We therefore expect bloody urine to complicate those cases of malaria in which the processes of nutrition and tissue-change suffer greatest damage, whether that derangement is the result of long existing cachexy, or a perversion of fluids and solids, occurring more rapidly, as in poisoning from phosphorus or in many cases of yellow fever. We must await the accumulation of more facts before venturing upon a more authoritative explanation of the pathology of malarial hematuria, or of the cause of the greater frequency of the symptom in connection with some epidemics than with others.

The first appearance of the blood is generally during, or immediately subsequent to a paroxysm. Sometimes its presence in the urine is limited to a given stage of the paroxysm; in other cases it becomes persistent for a number of days, or until death.

Dr. Brinton explains the admitted liability of renal hæmor-

rhage to return, or become chronic, by referring the fact to the derangements and obstructions in the circulation of the kidney, occasioned by the extravasation itself. The hæmorrhage is rarely in sufficient quantity to imperil life by loss of blood, however seriously it may affect prognosis by pointing to morbid states, whose significance the experienced physician at once apprehends.

The treatment should vary accordingly, as the medical attendant estimates the pathological state underlying and causing the hæmaturia. As in all cases of pernicious, or irregular malarial attacks, the indication urgent above all others would be the production of cinchonism at the earliest practicable moment. The remedies most likely to arrest the hæmaturia, if it proceeded from increased pressure, either distal or proximal, would be such as relieved the congestion, whether portal or renal; and such as subdued the heart's action, if the pressure which ruptured the capillaries was from excessive arterial force. Cold to the lumbar region, or, according to Mackintosh, cold water enemata would be useful adjuvants. Hæmaturia from depraved blood, or the weakened vascular walls of innutrition, would require remedies addressed to these conditions.

The astringent preparations of iron; vegetable bitters and mineral acids in combination; tannic acid; ergot, and opium would constitute judicious prescriptions, accordingly as an analeptic effect or an influence upon the capillary vascular system was the object sought to be obtained.

The case of typhoid fever was a strongly illustrative example of that disease, being characterized by the usual intestinal symptoms and the rose eruption. It progressed to a favorable issue under the observation of Prof. Chaillé. The treatment he instituted was the mineral acids, and careful attention to regimen.

A large phlegmonous abscess occurred as a sequel in this case, and was opened, allowing a free discharge of pus. Two others were threatened, but disappeared under the local application of tinct. of iodine persistently made. Under my observation, success in the dispersion of threatened abscesses occurring as sequelæ of blood diseases is the exception rather than the rule, and such is the previously announced experience of my colleague.

The following notes, very greatly condensed, are only intended

to present such a summary of the leading symptoms and points of treatment of the yellow fever cases, as to enable those who witnessed them to individualize each one.

William Davies, aged 32, in New Orleans one week, admitted to bed 273 November 6th. Taken sick afternoon of 5th; took quinine ℈i, had warm pediluvium immediately, and castor oil ℥ss. Nov. 7th, apyrexia; irritability of stomach and tenderness upon pressure. Neutral mixture, ℥ss; morphia, one twenty-fourth part of a grain; repeat each hour until the stomach is quieted. Sinapism to epigastrium. 8th. Continue treatment; very small portions of iced milk permitted. 9th. Bi-carb. soda, gr. iii; cherry laurel water, ℥i; morphia 1-24th part of a grain; orange flower water, ℥i. every two to four hours. 10th. Patient improved. Beef-tea and chicken water; wine of bark. Discharged November 14th.

John S. Curtis, aged 25, in New Orleans ten days, admitted to bed 284 November 13th; taken sick on previous day. First prescriptions as in preceding case; iced drinks and cold to head. On 14th and 15th took ℥ii liq. acet. amm.; spts. nitre, ℥ss; orange-flower water, ℥i. M. S. Every three hours. Small portions of iced milk. On 17th, pale ale, beef and chicken essence. Discharged November 23d.

Pat. Conley, aged 22, in New Orleans ten days, admitted to bed 285 November 24th. Taken on 21st with a chill, followed by fever. Countenance dusky and turgid; eyes injected, gums red and swollen. Pulse obliterated by moderate pressure; urine charged with albumen and reduced in quantity. He was ordered spts. nitre ℥ss in effervescing citrate potash every second hour, and efforts were made to sustain him by administering beef essence and brandy by mouth and rectum. He died on the 26th. Delirium, coma and complete suspension of urine existed for over twelve hours prior to decease. No post-mortem.

W. Dietrich, aged 26, arrived in New Orleans in October; admitted to hospital November 4th, to be treated for malarial fever and diarrhœa; had well defined attack of yellow fever January 4th, took castor oil ℥ss, followed by quinine ℈i. Febrile paroxysms lasted over seventy hours; urine albuminous and tinged with bile pigments; convalescence tedious and complicated by bloody furuncles. Treatment—Nutritious food, stimulants, iron, quinine and iodide of potassium. Discharged February 9th.

George Fitch, admitted to bed 289 October 16, on the subsequent day to his attack. He was ordered a warm mustard foot-bath, with ℥iii Haustus quinia of the house (equal to 15 grs). On the 17th, marked tenderness over the epigastrium and nausea. Ordered bi-carb. soda and cherry-laurel water. Black vomit occurred during the night and persisted throughout the 18th. Patient was permitted pellets of ice and sustained by enemata of beef essence and brandy. Convalescence was slow and attended

by numerous furuncles, especially abundant about the neck and hands. Treatment during convalescence—iron and mineral acids, the latter given in cold infusion of wild cherry bark. Discharged December 1.

Michael Collins, admitted to bed 290 October 23, the second day after seizure. Took ten grs. quinia each day for three days. No vomiting. Supported during calm stage with milk punch and beef essence. Convalescence tedious and complicated with parotid abscess. Treatment during convalescence—mur. tinct. iron and chlorate potass. Discharged Nov. 29th.

John Smith, admitted to bed 301 Nov. 14th, thirty hours after seizure. Ordered castor oil ℥ss and warm mustard pediluvium, to be followed by liq. ammon. acet. ℥ss, every three hours. Secretion of urine abundant. No albumen. Complexion of patient dingy yellow, and marks of pressure upon surface slowly disappearing; eyes injected and gums swollen; skin moist. On the 17th the color of the patient had become a brighter yellow. Urine scanty and containing albumen. Mind wandering. Died on 19th, without black vomit or other hæmorrhage.

John Beatty, admitted to bed 310 Dec. 4th. Got mustard footbath and fifteen grains quinine. Had copious ejections of black vomit, with retention of urine. Sustained by nutritious and stimulating enemata. Convalescence attended with insomnia and distressing paralysis agitans. Gave bromide potassium ℥ss, tinct. lupulin, ℥i, thrice daily. Patient in hospital under treatment for partial paralysis of traumatic origin.

John Kind, admitted to bed 303 October 13th, second day of attack. Case progressed towards convalescence very satisfactorily, but patient went out without sanction on 20th, and was speedily brought back to suffer his self-inflicted penalty of interrupted convalescence. He remained under treatment until January 11th, for diarrhœa, vomiting and violent paroxysms of fever, terminating in profuse sweats. The treatment consisted of quinine, chalybeates, mineral acids in bitter infusions, and a careful regulation of his diet.

That the pathological phenomena of yellow fever take their point of departure in perverted chemistry, is a proposition now generally admitted. But in what these errors of the chemistry of the economy essentially consist, will not be explicable until the nature and mode of action of the specific poison are unfolded. One of the earliest and most prominent of its effects, seems to be a remarkable disqualification of the blood for the discharge of its great functions as a dispenser of nutritious material, possibly of oxygen. We find as an almost universal resultant of this influence, that the dynamical forces of the economy are reduced to the lowest minimum compatible with the support of life. It is be-

cause of this condition—this silent but dubious equipoise between the vital powers and an unknown but potent toxic agent—that a most sagacious observer remarked, that the "successful treatment of yellow fever depended more upon the observance of *little things* than that of any other disease."

The case of Patrick Conley was pointed to as illustrating the truth of this remark. Had he received the requisite attention earlier, there is no good reason for supposing that the case would not have resulted in recovery. The patient was a man of unusual physical development and vigor, but it is against all medical philosophy and all our knowledge of the action of the "vis medicatrix naturæ," to believe that patients are more liable to die of yellow fever because they are more healthy at the period of attack. Persons in the full tide of health, and especially those whose occupations or imprudent habits devolve upon them an increased liability to derangements of function, are more apt to be guilty of indiscretions which may invite attacks of this epidemic, and which render them more hazardous when they do occur. Another fact which, in all probability, is fully as operative in increasing the mortality among this class of persons is, that they are more likely to neglect the first stage of the disease, during which the injury it inflicts is almost wholly wrought. It is, therefore, not because these persons are in strong health that they fall victims to yellow fever, but because derangement of one or another function or organ so complicates some state in the morbid process as to give a fatal conclusion to the case. It may be true that certain morbific agents act with more energy in states of the blood existing in plethora, or even in high health, and I shall not be understood to deny the common allegation that the poison of yellow fever belongs to this class. But if this should be allowed to be the case, and the admission granted, that by reason of more rapid multiplication, or other cause, this poison obtains greater intensity of action in previously healthy subjects, the proposition is no less true, that its removal or destruction depends upon healthy function, and takes place with a certainty and rapidity proportionate to the number and importance of the functions unimpaired.

It was long since held, and has recently been eloquently re-

iterated by Prof. Dickson, that the action of the vis medicatrix naturæ is vigorous and efficient in direct proportion to the number and importance of those functions whose integrity remains unimpaired during assaults of disease—that in truth the vis medicatrix, viewed as an agent capable of resisting or curing disease, is only the aggregated force of healthy functions, to the sum of which each normally working organ contributes, as a more or less important factor. In a physiological aspect, different functions possess an importance more or less fixed and absolute, while in pathological states the scale of importance is liable, with respect to many of them, to be shifted accordingly as the integrity of a particular function may be more necessary to recovery from a particular example of disease. These observations seem eminently applicable to yellow fever. The great indication of cure is conservation of function, until nature rids the system of the materies morbi after her own methods. The term conservation of function should be understood to imply normal activity, not excessive activity. For example, the easy production of diaphoresis in yellow fever may be interpreted as an indication, that this is Nature's mode of eliminating the poison, and that therefore activity of this function is a paramount consideration in treating the disease; yet, all experienced physicians know how frequently errors are committed in directing efforts at cure solely to this point. The deluge of diaphoretic draughts poured into the stomach induces fatal irritability; the profuse perspiration exhausts the patient, and, perhaps not the least of the evils, the excessive functional activity of one class of organs destroys the balance necessary to the general conservation of healthy function.

The propriety of exhibiting quinine as an initiatory step in the treatment of yellow fever is a question which has involved considerable discussion. All physicians will admit the indications for quinine in cases supposed to be commingled with malaria, and a large number prescribe it in congestive cases, leaving the question open as to the presence or absence of the malarial element of disease. But to present the question properly, it is necessary to exclude these cases, and enquire whether any advantage and what advantage is to be expected from its use in the treatment of yellow fever as an essential disease.

Neither this nor any other drug hitherto recommended is known to possess any quality antidotal to the poison of yellow fever. Yet there are certain pathological conditions connected with the disease in which the use of quinine seems productive of benefit. First, it is prescribed by many experienced and judicious practitioners, as customary initiatory treatment. It is then given in decided doses, repeated at such intervals that ℈i to ℥i may be exhibited in 6 or 8 hours, and is supposed to act beneficially, through its influence upon capillary circulation and upon diaphoresis. This latter function is surely modified by quinine—modified not so much in being rendered more profuse, as in being rendered more uniform and persistent. The opponents of this practice, who appear to me more numerous than its advocates, charge to its use the production of gastric irritability, which is unquestionably a serious evil as well as a possible result from its use. They likewise bring against it the more questionable accusations of producing cephalic determinations and gastric inflammations. I have had no reason to be dissatisfied with my practice, which has been to give grs. xv to ℈i, in those cases which I saw in the early hours of the febrile paroxysm, and in which an irritable stomach did not forbid its exhibition. If gastric irritability does exist, or there is fear of producing it, all the good effects of quinine can be attained per rectum, and its evil results avoided.

There is less disagreement in the profession as to the applicability of quinine to meet various indications occurring in the late stages of yellow fever. Not infrequently febrile exacerbations of a periodic character complicate the approaches to convalescence; the control of quinine over these is undoubted. Its utility as a general tonic in prolonged debility is unquestionable, and its local influence upon mucous surfaces in the cases of dyspepsia following in the wake of yellow fever may also be beneficial.

The other measures of treatment enjoined in my wards, during the febrile paroxysm were to free the bowels of their contents with from ℥ss to ℥i of castor oil, or if sick stomach rendered oil inadmissible, by means of enemata. In one case, in consequence of frequent vomiting, two doses, each containing calomel grs. v, bi-carbonate soda grs. v, were given at intervals of three hours with manifest advantage. Theoretically,

the saline catharties should possess advantages over other purgatives in yellow fever, because they relieve engorgements of the intestinal capillaries by serous effusion, but practically their want of uniformity of action is an insurmountable objection to their use. No efforts were made to abridge the febrile paroxysm by arterial sedatives. Solution of acetate ammon. or potash, or light draughts of acidulated drinks, aromatic infusions, warm or cold as preferred, or simply cold water, with warm pediluvia and tepid sponging, constituted the sum of treatment ordinarily addressed to the febrile stage.

After the termination of the fever, the great desideratum is to restore the composition of the blood to its healthy standard. No doubt this end involves both a process of addition and one of subtraction, but we know too little of the nature of the latter process to attempt its formulization, consequently we direct our energies to the attainment of the former point of reconstruction, and leave the latter to be accomplished in train, by retrograde nutrition. The means instituted for the purpose of direct nutrition must be guarded by more than ordinary circumspection. The functions of the stomach are nearly always imperfectly performed, either because of structural changes or from failure in the production of gastric secretion by reason of defective nerve supply. No formal rules can be laid down for the guidance of the inexperienced practitioner, in respect to the character or amount of nutrition to be allowed his patient. It had better be given in concentrated and fluid form, so that the stomach shall not be at any time unduly distended by the quantity requisite to nourish the patient, or taxed by long processes of digestion. Alcoholic stimulants, and especially the effervescing fermented drinks, are nearly always grateful, and are sometimes positively beneficial.

Success in treating yellow fever is closely connected with the attention bestowed upon the apyrectic stage. It therefore affords a test of the degree of medical skill brought to its management. The deceptive calm, which tempts the unwary physician to think that his professional ministrations have reached a happy conclusion, and tempts the patient to commit the fatal error of quitting his bed, should never throw us off our guard or occasion a relaxation in our attention to patients.

Very minute doses of morphia or some other form of opiate, were sometimes of great service in quieting irritable stomach in any stage of the disease. Good effects were also obtained from opium in the relief of another train of symptoms which not infrequently complicated the calm stage. I refer to delirium and insomnia; no doubt referable in very many instances to exhaustion or innutrition of the centres of grey matter. It is of much importance, before prescribing it, to determine that the delirium or insomnia is not due to uræmia or other blood-poisoning. All therapeutical observation teaches that opium is not antidotal to any form of toxæmia, and is pernicious to most examples, because of its immediate interference with functional activity and processes of elimination.

It is more than likely that bromide of potassium will become serviceable in relieving these conditions, I had an opportunity to observe its effects as prescribed by Dr. Smythe, House Surgeon of Charity Hospital. It was also prescribed for one of the cases treated in my wards. It has one unquestionable recommendation, —that of producing no disturbing or injurious effects, and the class were specially admonished that, if they limited their remedies to those only which possessed this qualification, the list applicable to the treatment of yellow fever would be few in number.

The cases of acute dysentery require no particular comment. All recovered under the use of saline cathartics, opiates and warm fomentations over the abdomen. One case of chronic dysentery was discharged in an improved condition. Post-mortem examination of the fatal case showed extensive ulceration of the large intestine.

What proportion of the cases of acute diarrhœa were dependent upon the epidemic influence of cholera, it is impossible to determine. As the greatest number of the cases occurred during the the early part of the winter, when cholera existed as an epidemic, it is reasonable to suppose that some at least were due to its influence. All the cases resulted in recovery; the treatment employed being in most instances ʒss doses of the following solution: ℞. bicarb. potas., tinct. opium, aa ʒi; peppermint water ʒii; to be repeated every two to four hours.

Chronic dysentery and chronic diarrhœa are among the most

hopeless examples of disease we are called upon to treat. If the results of cases observed during the session were more than usually favorable, it is probably owing to the fact that they were admitted to hospital in earlier conditions of the disease than usual, and not to any improved or more successful mode of treatment.

More extended experience in the treatment of chronic diarrhœa confirms an opinion long held, that more can be accomplished in effecting permanent cure, by careful and judicious adaptation of the diet than by the exhibition of drugs. It is difficult to separate the various elements which enter as factors into the pathological condition of different cases of diarrhœa, so as to accord to each one its due degree of influence. Excluding those cases in which the cause is ascribable to structural alterations of the mucous surface from inflammatory action of whatever grade, there are many instances of this disease liable, like the former class, to prove fatal, and yet whose pathology is but little understood.

Some of these cases may find their proper explanation in the existence of a state of hyperæsthesia of the nerves distributed to the muscular coat of the intestinal walls, while others seem connected with alterations in the gland structure of the bowels, and death takes place from inanition, although the diarrhœa may be arrested.

Many of the members of the class will be able to recall a case of diarrhœa in the person of an Irish sailor twenty-eight years of age admitted to bed —, ward nineteen, on the 30th day of January. This case was diagnosed as depending upon the last mentioned cause, and the attention of the class was invoked to its course and post-mortem appearances. The treatment at first consisted of five grains of bismuth with one eighth grain of morphia every four hours, until gastric and intestinal irritability was somewhat relieved, when the intervals were increased. In a day or two all medication was suspended, except fifteen grains perchlorate bismuth twice daily and an anodyne enema or suppository, when the frequency of the dejections demanded. A great variety of expedients was resorted to for the purpose of securing the nourishment of the patient.

The diet ordered him consisted of boiled milk, milk punch,

milk and lime water, eggs, soups and concentrated meat essences. Perhaps it may be affirmed that the use of Liebig's Restorative Soup for Invalids was better adapted to his case than any other one article of diet, (see fifth edition of Tanner's Practice, page 713.) The patient was extremely irritable in temper, and could not be induced to take cod-liver oil. The great care bestowed upon this patient by Dr. Kelly, my ward assistant, by the faithful nurse in that ward, and in the preparation of his food by the Sisters, prolonged his life for more than two months.

Prof. Chaillé made the post-mortem examination without finding any evidence of inflammation, ulceration or other structural lesion to account for death.

The following table shows the name, age, date of admission, and death or discharge of the cases of cholera in my wards:

Name.	Age	Date of admission.	Date of death	Date of discharge.	Remarks.
Z. Bird	28	Nov. 9	Nov. 10		Died in Collapse.
J. Carr	18	" 14	" 14		" "
G. Harper	25	" 20	" 20		" "
C. Morris	23	" 28		Dec. 3.	
C. Snyder	15	" 28	Dec. 1		Admitted in consecutive fever. Died comatose.
P. Harrison	30	Dec. 2	" 5		Imperfect reaction, fetid sanguinolent stools.
G. Burbridge	25	" 3	" 3		Collapse.
W. Barbor	35	" 17	" 18		"
W. Wilson	29	Jan. 10		Jan. 14.	
W. Tucker	25	" 18		Feb. 1	
J. Cayetta	24	" 22	Jan. 26		Collapse—imperfect reaction—sanguinolent stools.
C. McQuade	22	" 21		Feb. 25.	Opiates, astringents, careful feeding.

Statistics made up from groups of cholera cases, arranged with reference to particular modes of treatment, possess but little practical value; I have therefore tabulated these cases, for the sole purpose of aiding the notes or the recollections of students in individualizing their observations. I had no specific or exclusive method of treatment to impart to them; but while admitting with Dr. Wilks, that "we know of no medicine which will astringe cholera," I hold that all experienced physicians are able to recall cases which have amended in such direct obedience to the laws governing the action of certain medicines they have exhibited,

that they feel assured the amendment was brought about by the remedies in question. Much skepticism has been engendered in the profession in regard to the efficacy of cholera practice, because of the recorded instances of high death rate under every variety of treatment. Even after admitting the numerical accuracy of these statistics, they cease to exert such an effect when we take into account the great difference in the mortality rate of different epidemics. It may also be stated that, if the observations of Lionel Beale become a law of cholera pathology, the extent and gravity of the pre-existing structural change of intestinal villi will be supposed to have very much to do in determining the result in individual cases, as well as in producing increased liability to attack. The following extract will show, in the briefest manner possible, the result of Dr. Beale's microscopical researches in regard to cholera: "In almost all the cases of cholera I have yet examined, there is evidence of chronic structural change in the *tissues* of the intestines, and I think we shall be led to conclude that in most of the cholera victims important morbid alterations have been going on for months, and in some instances for years, before death. In some cases it is probable that, had the individual escaped cholera, he must have succumbed to some other malady within a short period of time." These observations must not be understood to contravene the well admitted theorem, that cholera has its own specific poison, whose presence is a *sine qua non* to the existence of the disease. The pre-existing tissue-changes may affect the receptivity or "*capax morbi*"* of persons in whom they exist, but they cannot originate cholera *de novo*. These discoveries do, however, afford the most reasonable explanation of the remarkable differences in respect to individual liability to invasion, which we observe in all cholera epidemics, notwithstanding apparently equal degrees of exposure. This personal difference, as it respects receptivity or resistance, is sometimes referred to moral influences, and has been explained by supposing that mental anxiety or dread is a predisposing cause. We cannot for a moment admit that any degree or phase of psychical influence is capable of creating the specific cause of cholera. It is therefore reasonable to infer, that mental apprehensions, by depressing nerve function and vital forces, exert a much more

* Prof. Haughton.

important effect in determining the issue of cholera attacks than in inviting them.

The treatment recommended for the active stages of cholera regarded the leading indication to be limitation of the discharges. All cases of diarrhœa admitted during its prevalence were treated with great promptitude by opiates and astringents. There is no proposition accepted with greater unanimity in the profession than the amenability of choleraic diarrhœa to medical treatment. This proposition cannot be invalidated by alleging that the cured cases were not premonitory to cholera, for too many instances are recorded of the prompt arrest of cholera visitations in armies or beneficiary institutions by establishing compulsory treatment of all attacks of diarrhœa. All the prescriptions made for the arrest of diarrhœa contained opium as the leading ingredient. The form most frequently followed was the tinct. of opium with bicarbonate of potash and peppermint water, as found on a previous page. Essence of ginger was occasionally added, and if there existed any tendency to cramps, chloroform was joined with the prescription. My experience does not teach me to believe that sulphuric acid possesses any specific control over choleraic discharges, but it is unquestionably a valuable and agreeable prescription. Some cases of developed cholera were treated by morphia, given in suitable doses and at suitable intervals, and sulphuric acid lemonade. The usual formula by which this was made was—℞. Sulphuric acid (dilute), ℥ii; syrup ginger, ℥ii; water, ℥iv. Mix. Tablespoonful to a pint of water for a drink, or a tablespoonful every two hours.

The treatment of developed cholera, dating the commencement of this stage from the period when the ejecta were rice-water in appearance, differed from that of the preliminary stage in energy rather than in character. Whatever theory may be entertained in regard to the eliminative nature of cholera stools, collapse and death bear too decided a relation to the amount of ejecta to justify their encouragement as the rule of cholera practice. Although almost all correct observers admit that those cases of cholera which have received hypermedication in the form of opium, chloroform, brandy, and every species of stimulant which can be gotten into the stomach, if they recover at all, are more sure to have troublesome symptoms during the stage of restitution; this fact should not be seized upon as exhibiting proof that the

sequelæ were produced by confining cholera poison in the system. It is more than probable that similar results would ensue with equal certainty upon immoderate dosing with such toxic agents, whenever the blood was so altered, by loss of its watery portions, as to clog those processes by which it rids itself of useless or hurtful material.

The supervention of collapse was generally an indication for suspending the use of medicines. Collapse arrests the choleraic process of serous effusion with the same certainty that syncope puts a stop to true hæmorrhage. The treatment of this condition was therefore confined to efforts to nourish and preserve warmth. Venous injection was not practiced, although held to be a justifiable measure under proper circumstances. The ingredients composing B. W. Richardson's artificial serum, or "blood food," together with an instrument for its injection, were prepared by Prof. Mallet, so that it might be used without delay, but no case suitable to its use occurred after this period. Subcutaneous injections were not resorted to, because not found necessary.

The patient admitted during consecutive fever was a fine-looking lad, fifteen years of age. The history obtained of his case was imperfect, but led to the supposition that he had been partially, yet not fully, collapsed. When admitted he was somnolent, but coherent when aroused; the eyes were injected, pupils thought to be somewhat contracted, but not especially abnormal; carotids pulsating strongly; tongue red and dry; skin dry; urine passed in bed, but apparently sufficient in quantity. The patient stated that incontinence of urine during sleep had always been an uncontrollable habit. On the day after admission the patient was less somnolent and seemed better, but the apparent amendment existed for a short time only. On the third day after admission he became comatose, and died without convulsions on the fourth day of treatment, or sixth, dating from period of first attack. The treatment consisted in diuretics, diluent drinks, sponging the surface with warm water, cold to the head, and careful instructions as to nourishment. We are not warranted in assuming that death in this case was due to uræmic intoxication. The secretion of urine was not suspended or greatly diminished until shortly previous to death. It was found impossible to procure any specimen for the purpose of determining whether or not it was albuminous. The prominent symptoms are those described

by Worms as referable to turgescence of cerebral capillaries from thickened blood—essentially congestive apoplexy.

The cases of erysipelas were intercurrent, both occurring in the same ward and within a few days of each other; one in the person of a patient under treatment for anæmia, the other being under treatment for pulmonary phthisis. They ran a favorable course, having been carefully watched over by my ward assistant, Dr. McNeil. The treatment consisted of mur. tinct. iron and chlorate potass., with lead lotions topically.

The case which was diagnosed as "gonorrhœal rheumatism," was a sailor, aged about 40, occupying bed ——, in ward ——. He had suffered five previous attacks of gonorrhœa, in each instance accompanied by a rheumatic affection of one or the other lower extremity. In the present attack the ankle and knee joints of the same leg were the seats of the local inflammation. It was therefore not strictly mono-articular, which some observers make an essential point of diagnosis, but it is equally true that even in this subject there was not now, nor had there ever been, that tendency to migratory invasion of a number of joints usual in true rheumatism. No tendency was shown to implicate other structures than the articular in the morbid process. It was taught that the pathology of this case depended upon the influence exerted on the blood by certain unknown products of the urethral inflammation. Whether this influence was merely a derangement or alteration of blood elements due to its passage through diseased structures; or whether some albuminoid or other products of inflammation obtained admission to the channels of circulation, and in that manner gave rise to the systemic disorder, is an unsettled point. The latter seems the more reasonable view, and in that aspect the disease becomes in its essential pathology a *quasi* pyæmia, and calls for similar treatment. This consisted of iodide of potassium, in ten-grain doses, thrice daily, chalybeates, quinine and vegetable bitter infusions, etc. It was inculcated as better practice to *cure* the co-existing gonorrhœa, instead of encouraging urethral discharge, under the opinion that its cessation had some influence in originating or aggravating the rheumatism. It is much more reasonable to think, with M. Rollet, that the abatement of the gonorrhœal flow coincidentally with the development of the rheumatism is rather the result than the cause of this constitutional manifes-

tation. The patient had likewise ophthalmia, for which he was treated by Dr. Pope, who may think the case sufficiently interesting to refer to it in his clinical remarks.

The cases of alcoholism were due to acute poisoning from over-indulgence in drink. They were treated with laxatives, diuretics and low diet. This treatment rested upon the assumption that the pathology was empoisoned blood, not alone from presence of alcohol, but in part due to retarded metamorphosis and altered secretion and excretion. When restlessness or insomnia existed to a great degree, efforts were made to induce sleep by other agents than opium. The following prescription often answered this purpose well: R. Bromide potass. ℥ss.; tinct. lupulin or tinct. hyoscyamus ℥i; water, ℥i. M. S. To be taken at bedtime.

The cases of acute rheumatism were treated, for the most part, with alkalies and opiates. The alkalies prescribed were preferably the bi-carbonate, the acetate and the nitrate of potash, each given in scruple doses, repeated every two to four hours persistently for the first two or three days of treatment. Whenever pain was a prominent symptom in the case, opium was given in quantity sufficient to subtract this element of disease. Quinine was given in every case, and generally with marked benefit, although the amendment was sometimes only temporary. It is most likely that quinine is valuable for the treatment of rheumatism in virtue of its sedative properties, and with this view of its mode of action I gave it in decided doses and quantities. A very common prescription was to give five grains conjoined to each dose of alkali, until its physiological effects were pretty well secured.

One case of acute rheumatism deserves a passing notice, on account of a course of experimental medication, to the results of which the attention of the class was called. It was one of those not uncommon examples of rheumatic fever marked by frequent exacerbations, or recurrences of both general and local manifestations of disease. The probability that the pathology of rheumatism consists in excess of lactic acid is now generally admitted. An ingenious author supposes that the fever of acute rheumatism destroys this accumulation of lactic acid, by means of the great increase of oxydization which always obtains under its influence, and thus rheumatic fever becomes corrective of its own essential cause. He accounts in this manner for the clinical fact,

that those cases of rheumatism in which the fever is mildest are usually the cases most apt to be marked by returns. With a view to test the applicability of these propositions to bedside practice, the patient, with his own consent, was submitted to a course of treatment designed to increase the oxydating processes of the economy. To this end, perchlorate of potash was given in ten-grain doses thrice daily. It was simply an effort to substitute the effects of a purely chemical action of medicine for the failure of a hypothetical natural process of cure. The improvement of the patient for some ten days was extremely flattering to hopes of a successful experiment, but after this other relapses occurred, in spite of the persistent use of various highly oxygenated medicines.

Chronic rheumatism afforded some good examples for its study. The best supported doctrines of its pathology indicate that it differs from acute rheumatism only in being engrafted upon some state of cachexia general to the system. The prominent clinical facts of its greater seriousness as a joint disease, and its lessened importance as it respects implication of vital organs and destruction of life compared with acute rheumatism, determine the difference in therapeutics. The leading points of treatment instituted were directed against the underlying cachexy. Quinine, iron, iodide of potassium, cod-liver oil and nutritious diet were the staple remedies. Whenever local inflammation, and especially effusions in the articular or peri-articular structures threatened damage to joints, blisters were applied, either in close proximity to or directly over the affected structures. When pain was troublesome, it was assuaged by opium. If the bowels were inactive, solutions of bi-tartrate of potash or of sulphate of magnesia were exhibited, until this condition was relieved. If there was furred tongue, with want of appetite, light mercurials were prescribed. Nothing justifies a belief that mercury exerts any directly curative influence upon the cachexy of chronic rheumatism. It is therefore probable that its good effects are due to its action in awakening renewed energy in the nutritive processes of the economy.

Five of the thirteen cases of pulmonary consumption are tabulated, for the purpose of presenting some of the leading practical points connected with them, with the greatest achievable economy of space.

Name.	Age	Date of Admis.	History and Symptoms.	Weight.	Temperature.	Date of Observation.	Physical Signs.	Result
John Lewis.....	27	Dec. 2	Development insidious five months before admission. No family tendency; no antipathy to fats or dyspepsia—Troublesome cough; mueo-pus expectorated. No hæmoptysis. Pulse 100; respirations 29.	136	99	Jan. 19	Mobility of chest wall lessened on right side. Percussion tympanitic, with distinct, cracked metal sound, in second intercostal space, right chest. Amphoric voice, and respiration heard anteriorly and posteriorly over same region. Exaggerated respiration over summit of left lung.	Discharged March 16.
				136	98.9	25		
				138	98	31		
				141	98	Feb, 1		
Thomas Quinn.....	34	Nov. 10	Nine months before admission had attack of pneumonia. Sick since that period. No family tendency. Much cough, with copious purulent sputa. No hæmoptysis. Pulse 98; respirations 21. Appetite poor; congenital dislike of fatty food.	137½	99.04	Jan. 6	Mobility of right chest wall lessened.—Wavy inspiration and tubular breathing over apex of right lung. Percussion resonance diminished over whole right lung—flat in axillary line at fourth intercostal space, where cavernous breathing is heard.	Discharged March 16.
				138	98	19		
				138	98	31		
				140	98	Feb. 16		
John Sullivan.....	27	Dec. 18	Ascribes illness to a severe cold contracted nine months prior to admission. Severe cough. Expectoration of frothy mucus, with frequent attacks of hæmoptysis. Pulse 94. Appetite and digestion good; weight in health 140lbs	123½	99.2	Jan. 18	Broncho-vesicular breathing below right clavicle. Expiration prolonged. Vocal resonance exaggerated. Percussion gives diminished resonance at right infra-clavicular region. Left lung, negative results.	In Hospital.
				125	98.8	25		
				124	99.5	Feb. 8		
				123	99.6	16		
James Croy.....	34	Nov. 20	Disease developed insidiously 19 months before admission. One brother died of phthisis. Troublesome cough; purulent expectoration; no hæmoptysis; pulse 106; respirations 24. Appetite variable, and antipathy to fats.	100	98.8	Jan. 19	Wheezy sounds connected with inspiration at apex of left lung. Increased vocal resonance posteriorly at summit of right lung. Percussion resonance increased over anterior upper part of right chest, referred to emphysema.	In Hospital.
				101	99	31		
				103	98.	Feb. 16		
Henry Armstrong.....	40	Dec. 10	Dates sickness from cold two years before admission. Both parents and sister died of phthisis. Cough and abundant purulent expectoration; frequent hæmoptysis since August; voice hoarse, strong dislike for fats; acid eructations; pulse 98; weight in health, 175 lbs.	121½	100.4	Jan. 5	Cavernous respiration and voice more strongly marked at second intercostal space on right side, and in right subscapular region. Distinct murmur with second sound of heart, and most distinct under sternum.	Died.
				123	99.4	18		
				125	99.	25		
				125	99.4	Feb. 8		
				116½	102.	Mch. 7		

The table inures to the same conclusions which would obtain, if the whole number of cases were included. It illustrates the connection as cause and effect between elevated temperature of the body and retrograde assimilation. In my clinical lectures great importance was attached to observations of temperature, whether regarding the diagnosis or prognosis of pulmonary tuberculosis. As it respects the former point, a persistently elevated temperature, not otherwise accounted for, was sufficient to determine a doubtful question. As to the latter point, elevated temperature implies either increased activity in the process of tuberculization or a more intense degree of irritation attending the deposit. Indeed it may be formulized as a pathological rule, that abnormally high degrees of temperature so surely indicate, or induce, serious lesions, that the physician should regard the continuance of such a state as a harbinger of danger directly proportionate to the degree of elevation, and period of persistence.

All the patients were required to be carefully weighed at stated intervals, and their weights recorded. I cannot commend the adoption of this custom too highly. It diverts the attention of the patient from the diseased lungs, and directs it to that more important point, the improvement of his nutrition. Every procurable article of diet or drink promotive of healthy nourishment was urged upon tuberculous patients. They were required to take daily out-door exercise, and were encouraged to co-operate in efforts intended for their cure by exciting their hopes and by keeping them constantly cheerful. Very little was expected from medication, directed for any other end than improvement of the digestive and assimilative organs. When acid dyspepsia was present, the usual prescriptions were thirty drops of aromatic spirits of ammonia in half an ounce of infusion of gentian, or bicarb. soda in some bitter infusion. In failure of appetite, quinine, strychnia, or the mineral acids in infusion wild-cherry bark or vegetable bitters were found to be valuable prescriptions. Troublesome cough was met by light opiates or other vegetable narcotics, or inhalations of medicated vapor. The latter method often allayed the harassing cough due to bronchitic irritation, when other measures would totally fail.

The two cases diagnosed as scrofula had both suffered from

ulceration of the cervical lymphatics, and were both strongly marked with those "evidences of innutrition," which, as Niemeyer justly observes, characterize the scrofulous diathesis more than all other indications.

The diseases of the nervous system illustrated remarkably well the contrast of symptoms which generally obtains between those examples unquestionably due to alterations of nerve structure, and those ascribable to various forms of irritation whose mode of impression and lesions are as yet undiscovered. The hemiplegia was referred in three instances to effused clots; in the fourth, conjecturally, to embolic plugging; yet no one of these cases exhibited the violent outbreak of symptoms present in those examples of neuropathy in which mere nerve irritation gave rise to exaggerated or disordered function. It is the difference in dynamical manifestations between destruction of tissue on the one hand, and perversion of normal function on the other. It may be further added that, "in those diseases of nerve function which seem most certainly ascribable to irritation, neither the extent nor the intensity of lesions of nerve structure seems to bear any definite proportion to the degrees of resulting irritation." Some unknown state of the nervous system, or mode of impression exerted upon it, determines not only the nosological complexion of the symptoms resulting from irritations, but their intensity likewise. Thus the most violent and interesting case of epilepsy was shown quite conclusively to be due to the irritation set up by the presence of a tape-worm; but it is beyond all human explanation, that the presence of a tenia should, in one instance, produce frightful fits of epilepsy, in another chorea, and in a third no manifestations whatever of nerve disorder.

This patient had undergone tenicide treatment in another ward, resulting in the discharge of an unknown number of segments of the worm. When transferred to my care he complained continually of epigastric uneasiness, and was morbidly anxious upon the subject of dislodging his supposed tenant. The course of treatment ordered was calomel and rhubarb aa. grs. x, to be taken at bedtime, and a similar portion to be repeated at the same hour the following evening, with ʒii pumpkin seed in emulsion to be taken during the interval. He was seized during the

night with epileptic convulsions unusually violent in character, and returning so frequently that Dr. Kelly thought it proper to give him chloroform and prolong its anæsthetic influence for some hours. I justified his practice, notwithstanding the opposition with which it is regarded by high authority. It has the sanction of Brown-Séquard, and the still superior merit of having held the convulsions in complete abeyance without any appreciable bad effect.

During his convulsions the patient bit his tongue severely, and difficult articulation, amounting to an almost complete loss of faculty of speech, followed and still remains. This evidently proceeds from paralysis of organs concerned in vocalization, and, together with the tongue-biting, points pretty surely to the medulla oblongata as a centre of irritation. Violent maniacal excitement followed the fits, and even to this period his mental condition and imperfect vocalization prevent any clear information in reference to sense of hearing and taste. Deglutition is performed in that convulsive manner which we define by the term "bolting." This patient had never been the subject of any form of convulsive seizure previously to this time. The urine was never found saccharine. The treatment consisted of ʒss. doses of bromide of potassium, in conjunction with ℥i syrup of lactucaria thrice daily, and pills of gr. i protiodide of mercury and grs. ii of extract of conium, given nightly, or sufficiently often to preserve solubility of bowels. Belladonna, in one-third grain doses, thrice daily, and one-twentieth of a grain of strychnia, were substituted for the first prescription after a few days. When the diminished heat of the head and lessened redness of the conjunctiva indicated subsidence of cerebral vascular turgescence, tinct. digitalis was prescribed in ℥i doses, three or four times daily. A blister was applied to the back of the neck and cold to the head. The patient has had two or three recurrences of the convulsions.

The cases of delirium tremens were treated with bromide of potassium, digitalis, opiates, and other vegetable narcotics. The worst case was attended with obstinate insomnia, delirium and aphonia. The prescription which brought the most manifest relief in this case was bromide of potassium, ʒss; tinct. digitalis, ℥i; water, ʒiii. Mix. Tablespoonful every fourth hour. Taking

a survey of the great number of patients for whom I have prescribed digitalis during the winter, I can recall several who continued to walk about the wards and hospital grounds while under its use, and yet no fact has come to my knowledge confirmatory of the observations of Dr. Maudsley. In his excellent treatise on the "Physiology and Pathology of the Mind," this author says: "I believe that, though a patient who has taken large doses of digitalis may be safe while he is lying down, he is sometimes in no small danger of fatal collapse if he starts up or runs about in an excited manner." A highly intelligent medical gentleman of this city (Dr. S. A. Smith), has observed a fact which leads him to concur in this opinion.

The case of traumatic tetanus was treated by Dr. Ernest Lewis, and resulted in recovery. The leading features of treatment were persistent use of bromide of potassium, quinine given to cinchonism two or three times during the progress of the case, and mitigation of the most violent spasms by means of chloroform. The patient was well sustained by nutritious aliment, and kept in perfect isolation and quietude. In this case the physician wisely employed his skill in *mitigating* the violence of symptoms, and in not attempting to force their cure. If tetanic convulsions can be held in such a degree of control, that they shall not occasion death by fixation of respiratory muscles or by exhaustion, the morbid phenomena gradually decline, and the case terminates in recovery by spontaneous subsidence of the disease.

The case of chorea offered such slender hopes of benefit from treatment, that a mere reference to it will suffice. The patient is a tall, loosely-formed youth, 21 years of age. While in the Confederate service in 1863, he underwent a very severe attack of measles, followed by paraplegia. As he recovered from the paralysis, the chorea developed itself, and has persisted for more than three years. The convulsive movements are incessant, except during sleep, and affect all the voluntary muscles. They bear greater resemblance to very exaggerated degrees of paralysis agitans than to ordinary choræic convulsions. Walking cannot be performed without the assistance of a nurse, or some form of support supplemental to the lower extremities. With such history and symptoms we could not reasonably conclude that the

pathology in this case was confined to mere paresis of the motor nerves. Whether we take the view that the chorea commenced in centric disease, or that it took its point of departure in the inter-nunciatory system of nerves, there are too many indications that its pathology is now connected with structural changes in the cerebro-spinal axis, to admit of a hopeful prognosis. The treatment was Fowler's arsenical solution gtt. xii, thrice daily; bromide of potassium, ʒss; tinct. hyoscyam, ʒi, at bed-time. Strychnia, iron and cold bathing were also prescribed, and the patient enjoined to exert continually efforts of will to gain control over the "delirious muscles."

The following table shows the cases of pneumonia treated in my wards, with location and results:

NAMES.	Age.	Date of Admi'n	Date of Attack.	Lung.	Result	Date.	REMARKS.
Geo. Bradford	51	Nov. 25	Nov. 24	Right	Died	Nov. 30	Tympanitic percussion over upper part of hepatized lung.
Jno. Hawkins	40	Jan. 18	Feb. 12	Do'ble	"	Feb. 17	Pneumonia followed œdema of the glottis and laryngotomy.
Eman. Jomini	66	Jan. 19	Jan. 19	Left	"	Jan. 28	Had been two weeks sick of malarial fever. Died of Asthenia.
James Kelly...	54	Mar. 2	Mar. 2	Right	"	Mar. 14	Old drunkard; under treatment for delirium tremens ten days before attack. Died from dysentery and exhaustion.
John Quinn ...	39	Jan. 23	.....	Right	Dis'gd	Mar. 20	Tympanitic percussion under right clavicle.
W. McCarthy	53	Feb. 28	.....	Right	Died	Feb. 29	Admitted moribund.
Thos. Coleman	20	" 3	Feb. 15	Left	Dis'gd	Mar. 1	Admitted for treatment with malarial fever.

If we rest our estimate of the merits of the treatment adopted in pneumonia upon the results exhibited in the above table, it would appear scarcely proper to recommend its further adoption. But there are facts explanatory of these results. Prominently above all others, it will be remembered that every case except one (James Kelly) was complicated with malarial disease, and that one ocurred in a hopeless condition of drunkard's cachexia.

The only case of double pneumonia was developed after the operation of laryngotomy, performed on account of œdema of the glottis. The patient had entered the hospital to undergo treatment for malarial cachexy and enlarged spleen. On the morning of February 9th he complained of sore throat. A very careful examination revealed two trivial papules on the velum palati of the right side, with very little tumefaction or redness. There was not the slightest difficulty of respiration or alteration of the voice to attract especial attention to the air-passages. During the night Dr. Kelly was hastily summoned to find the patient struggling under the most alarming dyspnœa. The finger readily disclosing the cause, he immediately opened the larynx and inserted a canula. The patient was then placed in a curtained bed, and the atmosphere kept charged with aqueous vapor at a temperature of 80°. The case seemed to progress favorably until the 14th, when an increased frequency of respirations and an anxious, flushed face excited apprehensions of pneumonia. Physical examination confirmed the suspicion. There was dulness upon percussion over the base of the right lung, with fine crepitation in the axillary line about the fourth intercostal space. Every possible effort was made to sustain the patient by forced diet, alcoholic drinks, quinine and ammonia, but death ensued on the 17th. Post-mortem examination showed hepatization, involving the third and greater part of the second lobe of the right lung, and a part of the lower lobe of the left lung. It revealed likewise incipient structural changes in the cartilages of the larynx, principally affecting the right half of the thyroid.

The frequency of pneumonia as a consequence of artificial openings in the windpipe is admitted as a clinical fact by many surgeons. Prof. Schuh, of Vienna, accounts for it by supposing that the currents of in-going air impinging directly upon the delicate structure of the lungs, instead of being gently admitted through a tortuous valvular apparatus, produce the inflammation by violence of pressure and distension. Whatever may be the cause, every safeguard judged necessary had been placed around this patient.

The therapeutical indications in the cases of pneumonia were so uniform, that there was very little diversity of treatment.

Quinine was given in every case save one, because of an actual knowledge of the presence of a malarial element of disease. This complication in truth determined the nature of the treatment instituted. Ammonia, either in solution of the carbonate, or the effervescing citrate, and small opiates entered into the list of remedies most frequently advised. The last case in the table took ten grain doses of Dover's powder every fourth hour, until the pleuritic pain was lulled. Linseed poultices or flannel cloths wrung from warm water were placed around the chest and covered by oil silk. This practice was commenced early, and persisted in until the process of resolution was well established, or until death. Systematic nourishment and liberal use of stimulants were more or less necessary in every case.

In two of the cases of pneumonia there existed tympanitic resonance on percussing over the hepatized lung. In the first case it was not developed until the third day after the attack, and was most marked in the third and fourth intercostal spaces, a little within the mammary line. In the second case it was present at date of admission, and persisted until date of discharge. In the latter instance it was most marked in the infra-clavicular region, one inch to the right of the sternum.

Whenever tympanitic resonance is found, aeriform collection must be regarded as the postulate of its existence. Either one of five different conditions as it respects the seat of such collections may be conjectured to give rise to tympanitic percussion sounds in pneumonia; first, true cavity; second, air in vesicles in proximity to hepatized lung; third, in the pleural cavity; fourth, in a large bronchial tube perforating the solidified lung; fifth, in the abdominal viscera and transmitted. In each of these two cases the aeriform collection was proven to exist in the hepatized lung, because of its undoubted connection with bronchial respiration. This fact proved also that it did not find its origin in exaggeration of normal vesicular resonance. The only questions of diagnosis then were; is there a true cavity? Is there a dilated bronchus? Is there a large but normal bronchus included in the hepatized lung? The second question was excluded because of the rare occurrence of such events. The alternative therefore was between the first and the last query. The history of the first

mentioned case gave no support to an opinion that the patient had ever been the subject of tuberculosis. The second patient had suffered from cough, with abundant expectoration, night-sweats and emaciation one year previous to admission. He had never expectorated blood; his appearance indicated a strumous diathesis, but he denied any family predisposition, and declared that his health had been perfect for six months directly preceding his admission.

The percussion sound differed as it respects quality in the two cases. In the first it was sharper in pitch and transmitted over a larger area; in the second the resonance was somewhat less tympanitic, but still contrasted notably with the dull bass sound produced by percussing for the sake of comparison over a true cavity. In both cases the cracked metal sound was produced when the mouth was open. In both instances bronchial respiration coincided with the tympanitic percussion. In the first case it was more intense and "brassy" than in the second, while in the second these qualities, although modified, still offered points of contrast, when compared at the same moment with the characters of true amphoric respiration. Vocal resonance was exaggerated in both cases; in the former to so great a degree that the clangor of the thoracic voice and its proximity to the ear were absolutely disagreeable. Whispering pectoriloquy was obtained in both cases, but more marked and attended with more souffle in the former.

Post-mortem inspection in the first case displayed the following anatomical changes: The right lung was hepatized from base to apex, the left was healthy. A former inflammation had united the pulmonic and costal surfaces at the anterior and upper part of the right chest, over a space four inches in diameter. This adhesion was continuous and so firm as to be with great difficulty separated. Directly beneath this patch a large bronchus was situated, with some fourteen lines of solidified lung intervening between it and the pulmonic periphrey. The lung presented no evidence of tubercular disease.

There seems no reason to doubt that in this instance the physical signs described had their origin in the bronchus subjacent to the locality where they were most marked. A bronchial tube of sufficient dimensions to contain a collection of air, this air

capable, because of the perviousness of the tube, of being put in rapid vibratory motion, and the increased degree of transmitting power possessed by an unbroken continuity of tissue between the aeriform collection and the ear, constitute a combination of circumstances quite sufficient to account for the phenomena present. Eminent teachers instruct us that contact of the solidified lung with the wall of the chest uniformly gives rise to dull percussion sounds. When this rule does suffer derangement from the accidental location of aeriform collections in a portion of solidified lung in contact with the chest wall, that very circumstance gives intensity to the irregular physical signs and additional interest to the disturbance of the laws of physical diagnosis.

I am not able to affirm a diagnosis in the second case, but the weight of evidence favored the supposition that a true cavity existed.

Want of space compels me to refer the class to their notes or recollections in reference to many important clinical observations connected with diseases of the respiratory system. The cases of pleuritis were typical and instructive; so likewise was the case of emphysema. It will be remembered that marked emphysematous states of lung tissue were found co-existing with two cases of pulmonary phthisis. In both these instances the observation of Pollock seemed to be confirmed, that this by no means usual complication appears to render the progress of consumption less rapid. The diagnosis of œdema of the lungs was made in a case of albuminuria, and confirmed by inspecting the cadaver.

Catarrhal inflammation of the stomach receives but little notice from medical authors or teachers, and in consequence of this fact I was the more careful to invite attention to the clinical phenomena of two very illustrative cases. One case will suffice to recall the symptoms and treatment. A fine-looking youth, sixteen years of age, employed on a steam-ship, was admitted to ward 19 in December, complaining of pain in epigastrium, aggravated by pressure or efforts to cough. He had a persistent sensation of nausea, culminating every four or five hours in an act of emesis, in which a considerable quantity of ropy mucus would be ejected. The acts of respiration were somewhat accelerated and incomplete, because of the pain occasioned by a full inspiration.

Pulse about one hundred, countenance and eyes slightly injected and sallow. The lungs were free from evidence of disease. Much conversation on the part of the patient produced coughing, which did not occur except when provoked in this manner. The treatment consisted of six grains, of calomel uncombined, followed by bi-tartrate of potash, until free catharsis was obtained; effervescing draughts; cold demulcent drinks; ice; light fluid diet; and blister over epigastrium, convalescence was prompt.

The four cases put down under the head of ascites, were simply those examples of hydro-peritoneum in which the cause could not be so conclusively proven as to justify employment of a different classification. In one of these cases the cause was supposed to be effusion from sub-acute peritonitis, induced by a severe attack of dysentery. The accumulation did not manifest itself until late in the progress of the dysenteric attack. It will be remembered that this opinion was arrived at more by a process of exclusion, than because of the presence of the actual symptoms of peritonitis; nevertheless it receives some support from the general premise advanced by Virchow, that peritonitis is more often the cause of ascites than has been supposed. The patient recovered after three weeks' treatment with twenty-drop doses, thrice daily, of mur. tinct. iron, and painting the belly with tinct. iodine.

In another case of ascites the patient had received a gun-shot wound, passing transversely across the abdomen, and apparently including in its course the convexity of the right lobe of the liver, there had been a good deal of laceration of the abdominal parietes and considerable loss of substance. The liver seemed likewise to be reduced in size, indurated and immovably adherent to the wall of the abdomen. The patient had made a good recovery, and was in excellent health until attacked by malarial fever, six months prior to his entrance into the hospital. He had continued to be harassed by returns of malarial attacks until the date of admission. The result had been to produce very marked anæmia and considerable enlargement of the spleen. The most interesting fact connected with the ascites in this case was, that although the accumulation was not very great, the extensive adhesions between the visceral and parietal surfaces had so entirely de-

stroyed the elasticity of the abdominal wall, that the effects of pressure were more troublesome than is usual to very large collections of serum in the peritoneal cavity. Respiration was very much impeded, and the heart pushed far above its normal site. Three pathological states may have had each its respective degree of influence in producing the ascites in this case: first, presumable physical obstruction to circulation from the wound of the liver and the enlarged spleen; second, renewal in mild form of the peritoneal inflammation; third, alterations of the blood predisposing to serous effusion. The treatment was vigorous purgation with compound jalap powder, repeated as often as increased pressure demanded, and restorative measures—quinine, chalybeates, etc.—during the intervals.

The third case was probably due to cirrhosis. The patient was in a dying condition when received in my ward, and when death occurred his friends refused permission for a post-mortem.

The cases of Bright's disease occurred in men of robust frames and originally good constitutions. One had been a farmer, and the other had held some petty office on a steamboat. They had occasionally indulged too freely in alcoholic drinks, yet neither was an habitual drunkard. It has so often occurred to medical observers to find albuminuria connected with this vice, that it is now regarded as its chief cause. That the ingestion of large quantities of alcohol should give rise to diseased conditions of the uriniferous tubules is readily explained by the physiological fact, that the kidneys are the emunctories through which the unchanged alcohol is principally removed from the system. It is a recognized fact in pathology, that those organs which assume the office of ridding the system of the presence of a poison, do so at the hazard of their own integrity. It is, then, perfectly rational to connect the lesions of the kidneys with the office which they execute, of eliminating a poison whose contact is highly irritative to their delicate epithelial structure.

Several clinical facts connected with these cases were worthy of note. First, they illustrated the important fact, that patients may be the subjects of very advanced states of Bright's disease without being cognizant of any renal difficulty. In one of these cases the daily secretion of urine was less than ten ounces, and yet the

patient was not aware of any changes in amount or character of his urine until my investigations determined them. Next, they illustrated the fact that, in advanced stages of the disease, the diminution of the amount of albumen in the urine is by no means an absolute indication of improvement; on the contrary, its diminution, or even disappearance, may indicate the progress of those more profound conditions of degeneration from which recovery is utterly hopeless. According to Cornill, fatty degeneration invariably produces diminution of albumen in the urine in proportion to the degree and extent of the changes it has effected in the kidney. This author also quotes Ranvier, as saying that "albumen and fat do not seem to be formed at the same time and in the same cell." In both of these cases the amount of albumen was greatly diminished for several weeks before death—almost altogether disappearing in one case.

The prognosis of albuminuria depends upon its pathology. There are three morbid conditions which may each determine its appearance: First, altered mechanism of the circulation by pressure; second, alterations of the blood; third, disease of renal epithelium. When due to the first or second cause, it is more likely to be temporary and curable; when to the third, it is always serious. While very little hope was expressed of obtaining benefit from any measures intended to cure these two cases, it was determined nevertheless to try the mode of treatment recently adopted by Niemeyer in several cases of Bright's disease, reported to the medical faculty of Tubingen. This consisted in confining the patient to milk for diet, and in promoting cutaneous transpiration by occasional baths and protecting the surface from cold. No medicines were given, except twenty drops each of mur. tinct. iron and tinct. digitalis, thrice daily. The patient's progress under this treatment was so satisfactory, that I shall not hesitate to adopt it again, and watch its results under circumstances not so decidedly unfavorable.

The cases of diuresis were simply examples of excessive functional activity, and yielded promptly to treatment. One of the patients had fallen from the deck of a steamer into the water, and the disorder was ascribed to this cause. The daily amounts of urine excreted ranged from ninety to one hundred and ten

ounces. The treatment was five grains sulphate of iron and ammonia, three times daily; ten grains of Dover's powder at bedtime, and restriction in the use of water or fluid ingesta.

In the case reported as lardaceous liver and spleen, the diagnosis was arrived at by exclusion. The patient was a seaman, thirty-one years of age. Some, two, or three years before admission he contracted syphilis, for which he underwent a tedious course of treatment. The evidences of syphilitic cachexia were not strongly impressed upon his constitution, and in truth were almost altogether limited to marks of suppuration of some of the inguinal glands. For two years he had suffered frequent but not violent attacks of intermittent fever. When admitted to hospital, on the 24th of October, 1867, the patient's abdomen was very much distended with serum, and this symptom, with enlargement of the superficial abdominal veins and the dull sallow hue of the skin usually co-existing with acholic jaundice led to a diagnosis of cirrhotic liver. The treatment directed for the patient was mur. tinct. of iron, tinct. digitalis aa ℥ii; tinct. nux vomica ℥i M. S. Give fifty drops three times daily. Also the following mixture was to be taken at will in the course of each twenty-four hours: ℞ Bitartrate potass ℥i; infusion juniper berries Oj M. Nitro-mur. acid and salt water frictions were ordered to be made over the region of the liver. After a month's persistence in measures of treatment which did not vary essentially from the above, the patient was completely relieved of the ascites, so that better opportunities were afforded for determining the condition of the abdominal viscera. I may remark in passing, that on more than one occasion I repeated the opinion, that the diuretic treatment had little or no agency in removing the ascites. It is extremely unlikely that any form of medication would increase renal secretion, with such an amount of pressure upon the blood-vessels as must have existed in this case. I supposed the removal of the dropsical accumulation due to relief of the obstructed hepatic circulation, by the gradual enlargement of compensatory channels through which the blood was returned to the heart; and in part perhaps, to an improved condition of the blood, as it respects its own composition. Whatever may have been the cause, after the removal of the serum, the flaccid, thin abdominal walls enabled

us to determine that the liver, especially the left lobe, was much enlarged and *hardened*. This latter condition was rendered obvious, when the lower edge was grasped between folds of the abdominal wall and subjected to pressure. The liver extended laterally to the boundary of the left hypochondrium, and inferiorly to the superior margin of the hypogastric region. Its convexity was very greatly increased, but the lower border retained its normal thinness and sharpness of outline. The right lobe appeared to be diminished in size. The spleen was very much enlarged and unusually resisting to pressure. A well defined fissure not more than one inch in width, separated the two organs, while the lower extremity of the spleen reached the left iliac region. The urine of the patient was normal in quantity and characteristics. The patient's bowels were variable as it respects solubility, but were readily excited by purgatives. Prof. Mallet analyzed two or more specimens of the stools, and found a deficiency, almost amounting to complete absence, of biliary co'oring matter. The patient had no indications of tubercles or history of any hereditary tendencies. He stated that he habitually drank whisky, and generally drank it "neat," but denied any excessive use of it. Some months before admission he had suffered pain in right hypochondrium, succeeded by jaundice, which had persisted for a number of weeks. Since the date of first attack his bowels had been in the variable state above described, fluctuating between slight costiveness and diarrhœa. The diagnosis which affords the most satisfactory explanation of the morbid states and phenomena entering into this clinical history, is that the right lobe of the liver has undergone cirrhotic changes and diminution of size, while other portions of this organ and the spleen are the seats of lardaceous deposit, and are enlarged. Dr. Wilks includes in his valuable report on lardaceous disease several instances, in which these two pathological states were found affecting different portions of the same liver, or indeed almost interlacing with each other. The difficulty in arriving at a defensible diagnosis in structural changes of the liver is so well expressed by Dr. Wilks, that I quote the language he employs: "Indeed it is very remarkable that, although liver complaints (as they are styled) are more spoken of by medical men than almost any other maladies,

yet that no organ has so few characteristic or positive signs of structural derangement."

Of course, little or no good could be produced from the use of medicines in this case. The perverted chemistry or physiology of these disorders of remote nutrition is too little understood to enable us to premise successful medication. It was thought that some good influence might be obtained by efforts to combat the supposed syphilitic diathesis, and for this purpose one-sixteenth of a grain of bichloride of mercury was given in ℥i fluid extract of sarsaparilla, thrice daily. The patient left the hospital during the month of March.

I have exceeded the limits assigned me, and yet have left many interesting examples of disease without notice; but it is to be presumed that a class as studious and faithful as that for whose benefit these memoranda are published, has not failed to derive the full measure of profit from the unmentioned as well as the mentioned cases. It has been my desire to make this, as far as possible, essentially a *résume* of the clinical facts and precepts brought to the notice of the class; consequently it has appeared to me just as important to recall some of the points of pathological doctrine mentioned in connection with various cases, as the clinical facts. This explains the introduction of speculations as to the nature of the various diseases discussed in this paper.

ART. X.—*Notes on a case of Thrombosis and Embolism, and of other Lesions occurring in Yellow Fever:* By STANFORD E. CHAILLÉ, M. D., Professor of Physiology and Pathological Anatomy, Medical Department University of Louisiana.

THE researches and experiments of Virchow and his co-laborers on the coagulation of the blood in living vessels, and the conveyance of minute clots or foreign substances (whether produced pathologically or introduced experimentally,) through the circulation to be arrested in the capillaries, or other vessels too small for their passage, producing in the tissues supplied thereby hæmorrhagic infarcti, fatty, purulent, and other degenerations, have served as a new era in pathological anatomy; and furnish

positive demonstration of many phenomena, which were before the subject of unsatisfactory conjectures only.

All facts connected with this interesting subject are worthy of record, and the case now reported, deserves additional interest from the fact, that no similar one (so far as is known) has ever been observed or published in connection with yellow fever.

On September 10th, 1867, Daniel Gavin, aged twenty-two, was attacked by yellow fever, characterized by the severity of the symptoms and great prostration. Within a week, profuse and obstinate epistaxis occurred, followed by bloody abscesses on the arms and legs. One of these on the right wrist was opened, and healed favorably. From the 23d to the 27th, præcordial pain and oppression, weak, rapid pulse, dyspnœa, and some ascites were observed. On the 27th occurred paroxysms of dyspnœa and coughing, with viscid expectoration, and a severe chill. The rigors reoccurred on October 8th, 13th, 30th, and November 5th, between which dates the dyspnœal paroxysms were often repeated, and profuse diarrhœa made its appearance. On Nov. 7th he died.

Between October 20th and 30th this patient (not in my charge) was first seen and was then suffering with a paroxysm of dyspnœa, which so seriously interfered with respiration and circulation, that it was confidently believed that the autopsy could be made on the next day. These dyspnœal paroxysms, and the following phenomena gave to this case its peculiar interest. The patient presented a singularly bloated, swollen, livid appearance, *limited* to the *right* side of the face and head, neck, arm, and upper part, (pectoral muscles chiefly) of the thorax; all of which were very œdematous, and darkly discolored. The swollen superficial veins of these parts were in marked contrast to those of the left side; and though the habitual decubitus was on the right, a protracted change to the left side did not diminish the local œdema and discoloration.

It was evident that such a condition must have for its cause some local impediment to the return of the venous blood from the parts to the right heart, and a thrombus was confidently diagnosed. Confirmation of the diagnosis followed in a few days when the jugular was found hard and corded. The condition of the patient

was such that the application of auscultation and percussion, particularly the latter, was painful, difficult and unsatisfactory; which added to the consideration that a fatal result was not doubtful, caused less thorough examination of the thoracic organs than was needed to decide correctly their exact condition. However, it was established that the action of the heart was weak and tumultuous or perturbed; but no friction sounds nor cardiac bruits were detected. The physical signs of bronchitis and pulmonary congestion were manifest over a large extent of both lungs, but to a greater degree on the left side.

The post-mortem examination was made in presence of the class by the writer, who stated prior to the autopsy, that it was a case of thrombosis with embolism, accompanied by such other symptoms and morbid anatomy as were frequent in blood-poison diseases. That the general symptoms belonged especially to that misnamed disease pyæmia, for which it was better to substitute a more non-committal term, as septicæmia, since modern researches had proved that blood was not poisoned by healthy pus. That those blood diseases which were frequently accompanied by symptoms of pyæmia, were the diseases which were the most often complicated with thrombosis and its resulting embolism. That the fibrin of the blood underwent changes in these diseases—some, as Rokitansky, asserting that it was augmented, others that it was diminished in quantity; but all agreeing that it was impaired in quality; that it was taught, that one of the results of this impairment in quality was an augmented tendency to coagulate—a tendency which the feeble action of the heart and a retarded circulation, always present in these cases, increased. As a result of such change, there sometimes occurred a coagulation of the blood in situ (thrombus), from which particles (emboli) were washed into the circulation, and were necessarily arrested in the first vessels too small to permit their passage. Modifications in the nutrition of the tissues, thus cut off from their nutrient fluid, followed, and thus were formed hæmorrhagic infarcti, fatty degenerations (limited), softening of isolated parts of the tissues, as the cerebral, and multiple abscesses. That the infarcti resulted from occlusion of an arterial vessel by an embolus, thus arresting circulation in all its branches, in which therefore

coagulation took place; and that as arterial vessels branched off divergently from the original vessel as their apex to the periphery as their base, therefore that infarcti were conical in shape with their base towards the surface of the organ affected That these hæmorrhagic infarcti differed from apoplectic hæmorrhages, in that the blood in the former was inside, in the latter outside of the vessels, and that these infarcti, at first hæmorrhagic, were subject to degenerations, of which the fatty was one, and purulent degeneration a more advanced stage. That, to explain why, when the whole mass of blood had undergone this tendency to coagulation, it manifested this tendency in certain parts of the circulation, demanded a search for local causes, an investigation which often proved profitless.

It was stated, that other anatomical lesions were frequently present, due to changes in the blood, changes not at all understood; and that among these lesions inflammations of the serous membranes were the most frequent. That no undue weight might be given to the ocurrence of thrombosis and embolism, it was well to bear in mind that the conditions in which they ocurred were generally fatal, even though these complications were wanting. For these reasons, it was confidently anticipated that thrombi would be found in the veins leading from the discolored and œdematous parts, and that hæmorrhagic infarcti with multiple abscesses would be found in the lungs, as embolism was a legitimate child of thrombosis. In addition, that the serous membranes required a close examination.

AUTOPSY.—*Vessels*—The right subclavian and internal jugular veins, from their junction and for some distance of their extent, were found completely occluded, in part by coagulated blood, but in chief by a fluid exactly *like pus in appearance*. This occlusion extended into the terminations of the external jugular, brachial and cephalic veins; and the farther from the heart the occlusion extended, the more the venous contents approached the appearance of coagula and the less of pus.

Lungs—Considerable congestion and innumerable multiple abscesses, each containing only a few drops of purulent fluid, were present in both lungs, as also small infarcti. On the surface of the lower lobe of the left lung was found an infarctus fully as large

as a pigeon's egg, indicating the occlusion of a vessel of considerable size.

Pleuræ—The surfaces of the thoracic and pulmonary pleuræ were extensively and firmly agglutinated by false membranes. In the diminished pleural cavities still remaining was found a considerable quantity of serum and fibrinous coagula.

Pericardium and Heart—Evidences of extensive and severe inflammation of the pericardium existed; false membranes bound it around the base, and also to parts of the apex of the heart. Its cavity was filled with bloody, turbid serum. The endocardium and valves were free from disease, and the vessels attached to the heart contained no coagula of note. Between the pericardium and diaphragm was an abscess containing not less than a tablespoonful of pus.

Kidneys and Liver—The kidneys like the lungs contained numerous multiple abscesses, and like the liver were congested. The liver was in other respects normal.

Brain—Its lateral ventricles contained some bloody serum, and beneath the arachnoid, blood, in small quantity, was extravasated. The cerebral parenchyma was somewhat soft, but uniformly so.

Careful examination failed to detect any other lesions.

REMARKS.—Many eminent authorities have maintained that there is a necessary sequence of cause and effect between phlebitis, thrombosis with embolism, and pyæmia; the first causing the second, and these the last. The facts in the present case fail to support this view, and are better explained by the supposition that the pyæmic symptoms and the thrombosis were both effects of the same cause, poisoned blood; the former being a general, and the latter a local manifestation of this cause. In this case the chief symptoms of pyæmia were well marked antecedent to any signs of thrombosis. Farther, it would be very difficult to believe that the emboli, necessarily conveyed to the right heart could traverse the pulmonary capillaries, and then passing into the arterial circulation be arrested by the renal capillaries only. For the kidneys were the sole organs supplied from the aorta which contained the multiple abscesses or any other of the lesions of embolism—and such abscesses in yellow fever kidneys are not

infrequent, independent of all causes to suspect either embolism or pyæmia. Therefore it is believed that the renal, as well as the lesions of the serous membranes preceded and were independent of the coagula and puriform fluid found in the veins, whilst the local œdemas and pulmonary lesions were caused thereby. To the thrombosis and embolism I was also inclined to ascribe the very remarkable paroxysms of dyspnœa which had been observed.

Too little is known of the pathology of thrombosis to furnish satisfactory explanation, or conjecture even, as to why the blood should have selected the junction of the internal jugular and subclavian veins, where local impediments apparently so little exist, as the site of its coagulation. Formerly a local phlebitis was confidently assigned as the cause, but in this as in cases reported by others, no evidences of such inflammation existed. Once it was dogmatically taught that the presence within the veins of a fluid having the appearance of pus was ample proof of phlebitis. Modern pathologists have abandoned this view; for Virchow and others have proved that the internal coat of veins when inflamed never exudes pus;—and Gulliver has demonstrated that the fluid found within the veins though puriform is not pus; that it is coagulated fibrin which has undergone its ordinary degeneration, converting it into a granular oily matter which possesses neither the microscopical nor chemical character of pus, and is the same process by which the fibrinous coagula, which fill up the air vesicles, and thus consolidates the hepatized lung of pneumonia, are softened and removed from the economy; that this change always begins in the centre of the clot and not where in contact with the venous walls; and farther that coagulated fibrin when removed from the body, and exposed to a blood heat begins to soften and to undergo this puriform degeneration in forty hours. Other microscopists have confirmed these views. On such subjects the authority of no one is higher than Robin's, who in his recent work (1867) "Sur les Humeurs," dwells with marked emphasis on the assertion, that the pus-like fluid found within veins is degenerated fibrin, not pus; and that such corpuscles as may be present are white-blood, and not pus corpuscles. A recent opportunity enabled me to examine an ante-mortem clot. An incision into its centre disclosed a puriform fluid, (deemed the

surest evidence of an old ante-mortem clot) which under the microscope had not the characters of pus.

The only part now assignable to phlebitis as a cause of thrombosis, and in some cases of pyæmia, is, that by it the venous walls are rendered thicker and rougher, which conjoined to other circumstances promote coagulation. The coagula may undergo softening, and cause dangerous embolism, and as a sequel of this, pyæmia may or may not be produced, depending on unknown circumstances. However indefinite and unsatisfactory this statement may be, it is not the less true that scientific accuracy will not justify any more absolute assertion.

NOTES ON THE PATHOLOGICAL ANATOMY OF YELLOW FEVER.

It is very much regretted that circumstances prevented satisfactory researches into the pathological anatomy of last year's epidemic. Arriving in the city in October, when the fever was on the decline, and finding that post-mortem examinations were prohibited by military authority, little could be done. In all, less than a dozen autopsies were made. The results of these may prove of some interest.

Even recent European authorities continue to repeat in their text books the assertion of Louis, that the "café au lait" liver is the characteristic lesion of yellow fever. Not exceeding one-half the cases examined presented this appearance, and established the fact repeated by every author in this city, that this lesion of the liver, whilst frequent, is not characteristic. These livers were microscopically examined for fatty degeneration, which was found, but by no means in exaggerated degree. Most observers report this condition as constant; but Prof. Riddell found it though frequent, not constant.

La Roche quotes Cartwright and others to the effect that lesions of the solar plexus are constant. It is true that in the tissues around the plexus, as in all similar tissues, as dependent, evidences of hypostasis are manifest; but the nerve tissue itself, examined carefully in six cases might have been selected as perfect types of normal structure.

In no case examined were the kidneys healthy. Extreme friability characterized them all. They were enlarged, congested,

and beneath the membrane forming the pelvis, infundibulæ, and calyces, were found petechiæ, ecchymoses, or other evidences of extravasated blood. In two cases the kidneys presented multiple abscesses, and in several cystic degenerations, which latter however were not ascribed to the yellow fever. In one case coagulated blood blocked up the renal vein of one side; which it was believed was ante-mortem, because the vein was solidly impacted and the clot present on one side only. Prof. Bemiss states that his researches show that albuminuria is not constant in yellow fever. That it was present in the first stage in some cases, in the second stage in a much greater number of cases, and very rarely absent in the fatal cases.

It is still discussed whether gastric inflammation is not a necessary lesion, and the cause of some of the chief symptoms of yellow fever. To those unaccustomed to post-mortem examinations, and this exception reduces the number of competent observers to an extremely limited number, no fact seems clearer than that yellow fever stomachs present abundant evidence of inflammation. Its mucous lining is found swollen, softened, eroded, congested, blackened.

The remark is as old as John Hunter, that there are very few dead bodies in which the stomach is not in some degree digested. The post-mortem results of gastric self-digestion are well understood, and are present in variable degrees in all cases—from erosions perhaps invisible to the naked eye, to perforations and the most extensive destructions, not only of the stomach itself, but of the adjacent tissues. If a rabbit be well fed, and then killed, and the body kept at a temperature of 100°F., over night, the most extensive ravages, even to perforation of the abdominal parietes result. But, though these facts are known, very few have habitually observed them in the dead house or laboratory; and therefore their opinions as to the lesions which distinguish gastric inflammation, from the post-mortem changes in the stomach, very variable in degree and totally independent of disease, are comparatively worthless. Rokitansky regards gastric softening as always cadaveric, and of two kinds, the gelatiniform or white, and the black ramollissement. The latter occurs whenever the gastric vessels are gorged with blood; and is the condition most

frequent in yellow fever, of which the only true gastric lesion is vascular engorgement, resulting often in rupture of the capillaries and extravasation of blood; which mixed with and altered by the gastric secretions constitutes the black vomit.

Whenever pathologists admit that the soft, spongy, swollen, bleeding gums so frequent in yellow fever owe this condition to inflammation, then they may admit that the gastric lesions are also inflammatory, but not before. Drake quotes Prof. Stone as reporting, many years ago, in regard to the gastric lesions that they were very marked, especially *when the examination was postponed.* It is not difficult to appreciate the sarcasm lurking in this remark.

ART. XI.—*Cases of Eye Disease, Reported* by Dr. B. A. POPE, in Charge of the University Eye and Ear Clinic.

CASE 1st.—*Traumatic Dislocation of the Lens into the Anterior Chamber. Flap Extraction. Chloroform Administered.*—T. E., aged fifty years. While at a fire, received the stream from the hose of a steam fire Engine against his left eye. The sight of the eye had been previously extremely imperfect. Ten days after the injury he presented himself at the clinic, and was sent to the Charity Hospital. He stated that he had the day before, for the first time, observed that the eye was inflamed. The pupil was completely dilated, and the lens and the iris were both in contact with the cornea. The next morning I found that severe inflammation had commenced. There were intense pain and photophobia, and the upper lid was much swollen. The chemosis was very considerable, but mostly of a serous character. The lens was of an amber color, with but a moderate amount of cortical substance, which led me to believe that it was a case of previously existing cataract, which had been dislocated by the blow received.

The indication was to extract the lens immediately by the flap operation, the lens being evidently hard, though apparently not very large. It was found necessary to make incisions with

the ocular conjunctiva, in order to bring the cornea into view sufficiently, it being partially covered by the swollen and flabby conjunctiva. In a few minutes the serum was sufficiently drained away to allow the performance of the operation.

The flap was made upwards, and smaller than in ordinary cases, for the lens seemed small, and it was evident that the vitreous must escape as the knife was withdrawn. There being no anterior chamber, it was necessary to pass the knife through the iris and lens. As was expected, the vitreous in a partly fluid condition followed the knife, and filled up the opening in the cornea. The cornea was found to be quite thin, and deficient in elasticity, though the diameter was normal. As the vitreous humor escaped the pupil partly contracted, but the upper part of the iris, including the pupillary margin, was carried back into the liquid vitreous humor against the ciliary body. This was caused by the fact that the vitreous humor followed the knife as it was withdrawn, and getting in front of the iris pressed it backwards thus, preventing it from passing into the corneal opening. The vitreous being to a great extent liquified and escaping, it was of course difficult to get the lens to move towards the corneal opening; besides it had already been displaced somewhat downward by the escaping vitreous. Instead of making the usual manipulations for extracting the lens, which would only have increased the flow of the vitreous humor, gentle pressure was used on the cornea from below upwards, which gradually approached the lens to the corneal opening, when it was seized by an assistant, and removed without difficulty, and with but little additional loss of vitreous. Not more than a fourth of the vitreous escaped during the operation. The perfect apposition of the lips of the wound was every where prevented by the presence of the more solid portions of the vitreous; still there was but slight separation, on account of the small amount of solid vitreous. The lids were closed by means of strips of adhesive plaster, and a soft compress and bandage were applied, so that uniform and gentle pressure was exerted upon the eye.

The dressings were removed sufficiently on the second day for the purpose of using a solution of the sulphate of atropia. On the third day the eye was examined, and it was found that

though the wound was closed the uniting material was much stretched by the internal pressure which had partially forced the iris against the wound. The next day I opened the wound at about the centre, and evacuated a small quantity of vitreous; but failed in seizing any portion of the iris, which sank back when the vitreous escaped. The imperfect application of the lips of the wound caused a transverse fold in the cornea, running from one extremity of the wound to the other, in a straight line. After the operation all symptoms of active inflammation subsided. The patient was very restless, and several times removed the dressings from the eye. Gradually the cicatrisation of the wound was completed, so that after about two months he left the hospital, with very good sight, and but slight remaining irritation of the eye. The pupil was displaced upwards, and was of the shape of a half moon.

Remarks.—The capsule of the lens had been ruptured by the blow upon the eye, and the slow development of the inflammation under such circumstances was an additional proof that the lens was cataractous at the time the injury was received. It is well known to ophthalmic surgeons that the *contact* of the *normal* lens substance is a source of great irritation to the iris. Even the cortical substance of a *ripe* cataract, when left in the anterior chamber, is often the cause of iritis after cataract extraction. Another great danger from dislocation of the lens into the anterior chamber, with the *escape* from the *capsule*, is the *swelling* of the lens substance, by imbibition of aqueous humor. The too rapid imbibition of aqueous humor is the principal source of danger in the operation for cataract by diseision, the swelling of the lens substance (cortical) causing increased tension of the eyeball (increased intra-ocular pressure) and inflammation. If the imbibition is very rapid, it may lead to total destruction of the eye, unless the lens substance should be removed by operation. In the case just given, notwithstanding the trauma and the rupture of the capsule, with dislocation of the lens, the inflammation up to the tenth day was very slight. Had there been a normal cortical substance this could not have been the case. The lens was of an amber color, and in addition the cortical substance small in quantity, but little changed by contact with the aqueous

humor, and presented nothing to distinguish it from the soft cortical substance of a completely ripe cataract.

For the above reasons it is almost certain that cataract previously existed, and that this case cannot be considered to be one of traumatic cataract, and should not influence the formation of an opinion as to the dangers of such an accident. In such a case the indication is for immediate operation.

CASE 2.—*Internal Strabismus.*—L. F., fourteen years old. When three or four years old his eyes began to become crossed. An exact history was not to be obtained. The right eye alone was affected. The degree of the strabismus was about three and a half lines. When the left eye was covered, and the patient was directed to look as far as possible to the right, the motion outwards was almost perfect, and about equal to that of the left eye. As a rule, the motion outwards of the affected is less than that of the unaffected eye. The accommodative movements were normal. The sight of the eye was reduced to reading No. 10 of Yaeger's text print. The eyes both departed from the normal refractive standard, so that it required convex lenses of thirty inch focus before the eyes in order to place them under optical conditions *similar* to those of normal eyes. The normal refractive standard is assumed to be the power to unite parallel rays of light upon the retina when the accommodative power of the eye is in a passive state.

The patient was placed under the influence of chloroform, and operated upon in the following manner:

An opening of about two lines in length immediately over the insertion of the rectus internus was made. The posterior margin of the wound was seized with the forceps and distended, so that the conjunctiva could be dissected with a pair of sharp-pointed scissors from the eye-ball, as far down as the semilunar fold. The tendon of the muscle was then seized with a strabismus hook, and divided close to its insertion into the sclerotic coat. The division was perfectly made, so as to get the full effect of the operation. The conjunctival wound was then closed by a single suture.

The deformity was corrected, and in an hour after the patient could *see better* with the eye operated on. In the course of a few

weeks the sight of the affected eye was almost as perfect as that of the other. There was hardly a trace of the operation, and the deformity was entirely cured.

Remarks.—This case is introduced in order to call attention to the importance of operating early in cases of strabismus. It belonged to the most favorable class, and the surgeon could run no risk in promising an almost perfect result, provided the operation was properly performed. It is, as a rule, unsafe to allow a case to remain without operation as long as this did. I have recently operated on a case in which the sight had been much more injured and remained without improvement, notnotwithstanding the patient was about the same age, and the case did not differ essentially from the one just described, except that binocular vision was no longer possible, even when prisms were used. The closest examination led to the discovery of no other cause for the strabismus, than the deficiency in the refractive power of the eyes. It is true that many cases are observed in which this imperfection exists in a high degree without causing strabismus, still so large a proportion of cases of strabismus internus are affected in the way that we are justified in the assumption that this is the cause. The degree of this imperfection causing strabismus internus is not a fixed one, consequently there must be in this class of cases some other influencing cause or causes, which most probably are to be sought for in the internal and external muscles of the eye, in irregular refraction of light, or in some defect in the anatomical relations of the retina.

Case 3.—*Iritis; Treatment and Cure without use of Internal Remedies.*—D. D., sailor, aged thirty-one years. The patient said that he had had a syphilitic skin disease about five years since. About 14 months since he had rheumatic pains in his shoulders and hips. His clavicles were "sore" at the time. For twelve months past he has had a slight redness of the right eye, but never had a decided inflammation till about a week ago. At that time he had a pain in the ball, especially when moved suddenly. Looking downwards was particularly painful. The pain was not constant. When he presented himself for treatment, he was suffering from severe throbbing nocturnal pain in the eye and photophobia. There was at intervals some pain during the day also. The upper

eyelid was somewhat swollen, especially towards the lower part, and the patient could hardly raise it. There was a free flow of tears with some mucus. The palpebral conjunctiva was of such an uniform scarlet red, that one not experienced in the diagnosis of eye diseases might well have supposed the case to have been one of catarrhal conjunctivitis. The whole ocular conjunctiva was red, but the redness increased in intensity from the conjunctival cul de sacs up to the margin of the cornea. The usual zone of sub-conjunctival injection around the cornea was present, but was partially masked by the conjunctival injection which was most intense in the same zone. The cornea was perfectly healthy. The iris was changed from blue to a decided green color. The pupil was contracted and motionless. The iris was somewhat swollen throughout. The aqueous humor was slightly turbid, but there was no plastic exudation into the pupil. For thirty-six hours the dilatation of the pupil by the use of the sulphate of atropia was imperfect, but gradually increasing. Its use for the first hour produced about one-fourth the normal effect.

The sight was very much affected, the patient seeing every object as though in a dense fog. The treatment was commenced by the simple use of a solution of the sulphate of atropia, dropping one or two drops into the eye every three hours, and the rubbing into the temple of a small quantity of mercurial and belladonna ointment twice a day. The next morning after the treatment was commenced, the pupil was found to be dilated to about one-third of its capacity, but remained *perfectly* circular, which was the only decidedly favorable symptom in the case. After the first twenty-four hours there was no more pain. In three or four days the pupil was perfectiy dilated, and all the symptoms improving rapidly.

At the end of nine days the patient left to join his ship. The inflammation had almost entirely subsided, and the sight was restored to nearly the normal standard, allowing for the effect of the sulphate of atropia on the sight.

Remarks.—Although this was a severe case of iritis and had existed for a week, still the absence of plastic exudation into the pupil, and the fact that the ciliary body and the choroid were not involved, were considered to be sufficient reasons for omitting the use of

mercury. Though the atropia only attained its maximum effect after about three days, still the pupil remained *circular* from the first. Had the dilatation been irregular, I should not have hesitated to use mercury. Had it not dilated at all or not reached a high point of dilatation in a reasonably short time, mercury would have been indicated also. Had there been any other manifestation of syphilis it would have been proper to give a mild course of mercury, having due reference to the bad condition of the patient's health. The cause of the iritis in this case was obscure, and though the evidence was in favor of a syphilitic origin, its history did not coincide well with what is absolutely known of syphilitic iritis.

CASE 4.—*Keratitis and Iritis.*—H. R., thirty-five years old, presented himself at the clinic for treatment on the 25th November, 1867. Two months before he had had a severe attack of yellow fever. He had a relapse and was confined to the house for a month. About the 1st of November his left eye began to be sensitive when exposed to light or air. His eye became red and there was an excessive secretion of tears. He had at that time some pain, which he thought to be on the inner surface of the upper lid. There was no circumorbital pain. About two weeks since the sight began to be affected. When he presented himself for treatment, there was a moderate degree of catarrhal conjunctivitis, and some superficial ulceration of the outer and lower part of cornea, which extended to about its middle. The ulceration amounted over a part of the surface to a simple abrasion of the epithelium. The ulcerated surface of the cornea was somewhat vascular. There was present the usual zone of redness around the cornea, with a preponderance of the conjunctival over the subconjunctival redness. The cornea was slightly hazy for some distance around the ulcerated surface. The aqueous humor was turbid and the iris changed in color and swollen. The sight was much affected, the patient only being able to count fingers at twelve or fourteen feet. There were considerable pain (circumorbital) and photophobia. To the above symptoms are to be added the usual symptoms of a mild chronic catarrhal conjunctivitis.

There had been no medical treatment used. The patient's

"landlord" had prescribed a wash of "lead and zinc" which had caused a moderate deposit of lead in the ulcerated cornea.

The extent of the affection of the iris was revealed by the use of atropia. At least half of the pupillary margin was found to be adherent to the capsule of the lens, and it was evident that the exudations were of such strength that they could not be broken up by medical treatment.

The patient was broken in health, and it was thought advisable not to use mercury internally. The internal treatment was limited to the use of vegetable tonics. A few drops of a solution of the sulphate of atropia were poured into the eye every three hours, and mercurial and belladonna ointment rubbed into the temple. The eye was well shaded and the patient kept quiet. In two days all pain had ceased, and the violence of the disease had begun to subside. In about a month he commenced work again by gas light, which caused a relapse which was soon relieved. After the violent symptoms of the disease had ceased, which was in a few days after the commencement of the treatment, I applied a weak solution of the nitrate of silver to the palpebral conjunctiva. This seemingly irritant treatment, by controlling the catarrhal symptoms, improved the general condition of the eye.

Remarks.—It was impossible to discover any cause for the iritis except the corneal trouble, which in the broken down condition of the patient's health was in my opinion sufficient to account for its existence. The patient had been previously healthy and had never had an attack of rheumatism or syphilis. It is not uncommon to see cases of superficial affection of the cornea, if extensive, result in iritis, especially where the health has been broken by fever. Shortly after he came to me, the other eye became affected with slight catarrhal conjunctivitis, but the cornea and iris remained unaffected. As a rule the iris does not become implicated except the ulceration be deep or extensive; here the ulceration was not deep but there was probably implication of the deeper layers of the cornea in the inflammatory process. It was noted that the inflammation of the iris and its adhesions to the capsule of the lens were most marked at that part corresponding to the corneal disease. It was evidently one of those cases

which, if neglected or mistreated, result in the formation of hypopyon. The pus in the great majority of cases comes from the cornea (posterior surface of) and not from the iris as many suppose. In fact I have known pus to form in the anterior chamber before there was a marked participation of the iris, and in one case but little reaction on the part of the iris while the pus remained. The excision of a portion of the iris was proposed to the patient at the close of the medical treatment. This was not to admit light, for the cornea immediately over the pupil had cleared, the pupil itself was free, and the sight was very good. It has been observed, however, that if extensive and permanent adhesion take place between the iris and lens capsule, the acute disease terminates in chronic iritis or irido-choroiditis, which diseases in a large majority of cases terminate in the permanent injury or loss of the eye. The patient was relieved of the attack but declined the operation.

CASE 5th.—*Keratitis and Iritis.*—This patient was a child of four years old, small for his age, and quite pale and thin. He had been suffering for some time with an undecided form of intermittent fever of the quotidian type. The cold stage of the fever was but slightly marked. The child was very restless, especially at night, when it slept very little. When it was brought to the clinic, the left eye was affected with mild catarrhal conjunctivitis, and a superficial and moderately large ulceration of the upper part of the cornea. The corneal tissue for a considerable distance around the ulceration was slightly infiltrated and moderately opaque. The cornea in the same area seemed slightly distended, as though its tissue had been softened by the inflammatory process. The ulcerated surface had a dirty greyish macerated appearance. The iris was congested and the aqueous slightly turbid. In a couple of days after the child was brought to the clinic a small quantity of pus was observed at the lower part of the anterior chamber. Previous to the appearance of the pus in the anterior chamber, the iritis was slight, but now became the most prominent and important feature in the case.

The treatment consisted in the use of quinine, with reference to the fever at first, and subsequently as a simple tonic. A solution of the sulphate of atropia was used from the first. When the iritis

became marked the use of small doses of calomel repeated five or six times a day was added to the treatment. After several days the fever was entirely broken, but the child, though improved in health, did not regain strength as was desirable. Worms being suspected a vermifuge was administered. The following day they were passed in large quantities. This treatment was repeated two or three times and with benefit to the condition of the child. Shortly after it had an attack of dysentery, the treatment for which caused it to pass a considerable quantity of worms again. The condition of the patient's health and the variety of affections of the eye made the prognosis extremely doubtful. In spite of the greatest care the disease advanced in intensity for at least ten days, but then gradually yielded, and after six weeks no trace was left, except a nebulous opacity of the upper part of the cornea. The pus remained in the anterior chamber, pretty much as first seen, for two weeks, and then gradually disappeared. As soon as the iris dilated tolerably well from the use of the atropia, the mercury was discontinued.

Remarks.—This like Case 4, illustrates the danger of a seemingly unimportant affection of the cornea becoming complicated by iritis in certain conditions of health. It is highly probable that in both these cases the disease of the conjunctiva was the commencing trouble, and that the corneal disease was a consequence of it, as the iritis was the result of the inflammation of the cornea. It was found beneficial now and then to touch the palpebral conjunctiva with a weak solution of the nitrate of silver, even when the pus was still present in the anterior chamber. Ordinarily, of course, this would only increase the iritis, but here the corneal affection being the source of irritation to the iris, any thing which would diminish the former would in all probability benefit the latter. Of course this practice is only recommended in cases where the conjunctival disease is the starting point, and its continuance evidently increases the dangers of the case. The greatest caution in its use is therefore recommended. In all affections of the cornea where there is the slightest suspicion of a participation of the iris in the disease, the sulphate of atropia is absolutely indicated. The presence of a very moderate amount of pus in the anterior chamber does not demand a change

of treatment. Should the amount be very great and increasing, the indication is to evacuate it through an opening in the cornea. If the operation be performed when there is but a small accumulation of pus, it is generally unnecessary and may be very pernicious. Only one case has presented itself at the clinic, since it was established, in which the operation for the removal of the pus was indicated. As a rule the appropriate treatment for the diseases of the cornea and iris will lead to its absorption.

ART. XII.—*Chemical Examination in a case of Fatal Poisoning by Stramonium:* By J. W. MALLET, Ph. D., M. D., Professor of Chemistry, University of Louisiana.

IN the early part of March of the present year, a box was received at the chemical laboratory of the Medical Department, University of Louisiana, sent from Mississippi, by Dr. R. J. Durr, of that State, and containing a sealed bottle, in which were the stomach and its contents of a young man supposed to have died from the effects of poison.

The accompanying letter requested a chemical examination, stating that no distinct clue to the nature of the poison used (if there had been any) could be given; that the young man in question had assisted in getting up a party, arrived late at the house at which the party was given, and was served with supper—which was saved for him—apart from the other guests; that he felt no sickness until about an hour after supper, when, as he was dancing, he felt sick, went out upon the gallery, vomited, and complained of headache—*it is said* that the pupils of his eyes were dilated, this fact not ascertained by the physician himself—that shortly afterwards the patient fell into a stupor, went to sleep, and was not noticed till after midnight, when, being aroused to go home, he was almost unconscious, with a slow, full and labored pulse. He died the next morning about nine o'clock. No mental excitement had been noticed, the patient passing into a semi-comatose condition as soon as affected by the poison, and ceasing to be rational after three or four hours. He was described as having been "limber," and in a cold, clammy perspiration. There had been no purging, but vomiting had continued

for some time. There had been no complete post-mortem examination; the stomach and part of the duodenum had simply been removed and put aside for examination.

The stomach was opened, and found to contain nothing but a small quantity of a tolerably liquid reddish-brown matter resembling coffee grounds. There was no clearly marked morbid appearance about the inner surface of the organ itself.

The stomach, cut into fragments, and the contents were separately examined by the method proposed by Stas, namely, treatment with water and alcohol successively, with the addition of a few drops of sulphuric acid, evaporation at a very gentle heat over a water bath, digestion of the dried residues with water, and, after filtration and the addition of caustic potash enough to produce alkaline reaction, agitation of the aqueous solution with ether. In one experiment ether alone was used as the final solvent, in another a mixture of ether and chloroform.

A residue was left from the spontaneous evaporation of the etherial solution, in clearly recognizable quantity (probably $\frac{1}{3}$ or $\frac{1}{2}$ grain) from the contents of the stomach—in traces only from the stomach itself. This residue crystallized readily upon a glass slide, and under the microscope presented the appearance of minute prisms, aggregated together in pennate and stellate groups. It could easily be redissolved and recrystallized. A minute particle placed upon the tongue gave rise to a well-marked bitter taste. Dissolved in water it produced a distinct alkaline reaction with reddened litmus paper. Its aqueous solution gave precipitates with tannic acid and mercuro-iodide of potassium. Nitric acid produced no marked coloration; sulphuric acid a red coloration, verging rather upon orange than rose-color, but the quantity used was not sufficient for any distinct observation.

Dr. Pope, in charge of the eye and ear clinic of the University, was kind enough to make a careful experiment as to the effect of this substance upon the eye. After noticing that the pupils of the writer's eyes were of equal size when similarly exposed to light, a very minute portion of the residue from the evaporation of the solution in ether was introduced beneath the lid of one eye, and the result was awaited in a partially darkened room. In about half an hour distinct and strongly marked dilatation of the pupil was produced; a fact verified by Drs. Stone, Pope,

Hawthorn and others. The power of accommodation of the eye to varying distances was interfered with, but to a small extent only. In three or four hours all effect upon the eye had passed away.

As the result of the above experiments, it was considered as proved beyond doubt that the stomach examined did really contain a poisonous alkaloid of the atropine group. It appeared most probable that this alkaloid was either atropine itself or daturine, and the latter seemed to be pointed to more particularly by—;

1st. The readiness with which the substance found could be crystallized, atropine being notoriously of difficult crystallization.

2d. The short duration of the effect upon the pupil of the eye, though this was so strongly marked while it lasted. It is stated in Bouchardat's Annuaire de Thérapeutique for 1864, p. 24, as the main result of a comparison of the physiological effects of daturine and atropine (believed by most authorities to be chemically the same) that the general action of the former poison is more intense and less persistent than that of the latter, and as regards the eye, that daturine dilates the pupil more rapidly than atropine, but the dilation does not last so long.

3d.—The fact that datura stramonium or "Jamestown Weed" is well known to negroes as a poison, is everywhere accessible to them, and is used by them for criminal purposes—while belladonna in any form is much less known and procurable.

Suspicion had been directed to negroes in this case.

A report, stating these results in form for legal use, was forwarded to Mississippi.

Since then a letter has been received from Dr. Durr, confirmatory of the conclusions arrived at. He states that a negro man and woman had been arrested on suspicion of their having been guilty of the act of poisoning, and that they had confessed to having used stramonium.

Memoranda with reference to preparation of Perchloric Acid and Perchlorates for medicinal use.

The very large proportion of oxygen contained in perchloric acid, and the remarkable stability presented by this substance and the salts which it forms, suggested the idea of examining the therapeutic effects which might be obtained by means of them.

This idea occurred without a knowledge of anything having previously been attempted in the same direction, although it must be confessed that no special search was made in medical literature with reference to the point.

The substances prepared were, the acid itself, and its compounds with potash, sesqui-oxide of iron, bismuth and quinine.

Perchlorate of potash was first formed, by heating successive portions of chlorate of potash in a large porcelain crucible over a gas lamp, raising the temperature gradually until the melted salt began to give off oxygen freely, then maintaining steadily the same degree of heat as long as effervescence continued. The residual mass was crushed, washed moderately with cold water, dissolved in boiling water, crystallized by tolerably rapid cooling, and purified by two or three rapid crystallizations. As thus obtained, the salt was supplied to Dr. S. M. Bemiss for trial in the wards of the Charity Hospital, any possible danger from its use having been guarded against by preliminary experiments with large doses administered to the lower animals.

For the purpose of preparing perchloric acid in the free state the perchlorate of potash was carefully distilled, in small quantities at a time, with sulphuric acid diluted with but little water. A portion of the perchloric acid underwent decomposition, but the greater part was collected, in a tolerably concentrated form. Its exact strength was not determined, but that which was prepared for trial in the hospital was diluted until it could be borne in small quantity in the mouth, but had a very strong sour taste.

For perchlorate of iron, the sesqui-chloride of the metal was precipitated by a slight excess of ammonia, the hydrated sesqui-oxide of iron was washed twice or thrice by decantation, and was then added to somewhat diluted aqueous perchloric acid as long as it was dissolved. The solution was filtered and preserved for use.

The perchlorates of bismuth and quinine were prepared in a similar way, using the precipitated hydrated oxide of bismuth and freshly precipitated quinine respectively.

It was intended to use these solutions merely for the purpose of ascertaining whether *any* distinct therapeutic effect could be obtained from them, and, if so, its general nature. It was proposed,

in case these first experiments furnished any encouragement to proceed, to prepare several other compounds of perchloric acid, to try different forms and vehicles of administration, and especially to note the precise quantitative composition of the different salts and the strength of the solutions used, so that there should be some precision in the doses employed. The writer was obliged to leave these experiments incomplete on leaving New Orleans at the close of the session.

The following statements bearing on this matter have since been noticed as already on record:

Bödecker, in 1849, prepared the perchlorates and per-iodates of several of the alkaloids, including the per-chlorates of quinine and cinchonine. Their chemical characters were described by him, and their crystalline forms by Dauber; but no allusion was made to their physiological action.—*Ann d. Chem. u. Pharm*, 71–59.

Recently, the *chlorate* of quinine has been prepared, at the request of Dr. Lyons, for some experiments performed at the Whitworth Hospital, Dublin, in connexion with two or three cases of "black death." It is said to have been since employed by that gentleman with great success as a new febrifuge, reference being made to Dr. Lyons' clinic (Medical Press and Circular, vol, 1, p. 653). Mr. Chas. R. C. Tichborne described, in a paper read before the British Pharmaceutical Conference, the method of preparation and chemical properties of this salt, and stated the results of its analysis. He remarks, that "for the internal administration of this salt it is soluble enough in water (probably the most efficacious method of exhibiting it). It is incompatible with the mineral acids, as they form the ordinary salts of quinine; it is for this reason that Dr. Lyons has hitherto prescribed it in conjunction with *perchloric acid, itself* a valuable oxidizer.—*Chemical News*, *No.* 35, (*Sept.* 7, 1866,) *p.* 111.

ADDENDUM.—The medicines whose mode of preparation Prof. Mallet has described, were not used in a sufficient number of cases to justify any conclusions, based upon actual observation, in respect to their therapeutic value.

Perchlorate of potash was given in from five to ten grain doses, dissolved in water, thrice daily. It was prescribed for sub acute rheumatism, and for one case of anæmia, with enlarged spleen.

Perchloric acid was given in fifteen grain doses, in sweetened water or infusion of a vegetable bitter, three times daily, for about one week, to the patient with lardaceous liver and to a patient with anorexia and malarial cachexia for about the same time. Pepsine could not be procured, and this medicine was used to meet the deficiency.

Perchlorate of iron was given in doses of ℥ss to ℥i, thrice daily, to two cases of anæmia from malarial influence.

Perchlorate of bismuth was given in doses of ten to fifteen drops, in diarrhœa and dyspepsia.

Perchlorate of quinine was given in ℥i doses, thrice daily, to several cases of inveterate chill and fever.

The most marked good results were obtained from the perchlorate of bismuth, perchlorate of quinine and perchlorate of iron, respectively mentioned in the order of their apparent value. In the publication of 1869 it is hoped that the joint experience of our Faculty may authorize the announcement of more definite conclusions in regard to the value of these preparations.

S. M. Bemiss.

CHRONICLE OF MEDICAL SCIENCE.

QUARTERLY RECORD OF SURGERY.

COLLATED BY SAMUEL LOGAN, M. D., PROF. OF SURGERY NEW ORLEANS SCHOOL OF MEDICINE.

Treatment of Syphilis.

In the Memoires et Bulletins de la Société Medico-Chirurgicale des Hôpitaux et Hospices de Bordeaux (tome 11, 1869), is a very interesting paper by M. Moussous, upon the past and present treatment of syphilis. The principal points in the paper are thus summed up:

1. The idea of treating syphilis without mercury is not new.
2. In the rational treatment of the fifteenth century, by consecrated pieces of wood, and the Portuguese method, mercury counts for nothing.
3. Blenorrhagia—simple chancre, with its local complications, syphilis, with its general poisoning of the system—are three distinct maladies, and are not to be treated in the same way.

4. The cauterization of the infecting chancre as a preventive of constitutional syphilis, is of no utility, the syphilis being established when the chancre has appeared.

5. Mercurial treatment, however well conducted, and though instituted at the budding forth of the chancre, is incapable of preventing the general manifestations, but only defers the period of their usual occurrence.

6. If the mercurial treatment be reserved for the time when the general symptoms appear, it then has perhaps more influence upon them, to the extent of making them disappear more rapidly.

7. Mercurials are specially suited to the secondary symptoms.

8. The further syphilis advances towards its later forms, the more mercury loses of its influence upon it.

9. In the tertiary period the hydriodate of potassa is the drug on which the most reliance is to be placed; it is of service also in the period of the prodroms which precede the general symptoms; it is, therefore, the medicine for the commencement and for the end.

10. Syphilis may disappear without any interference—*sponte sua.*

11. An eclectic treatment, in which one part is assigned to the reactions of the organism, another to mercury and the hydriodate of potassa, to which may be added iron, quinine, and certain warm mineral waters, would assuredly be the best suited to bring about the cure of syphilis.—*Boston Med. and Surg. Journal.*

Median Lithotomy with Bilateral Section of Prostate.

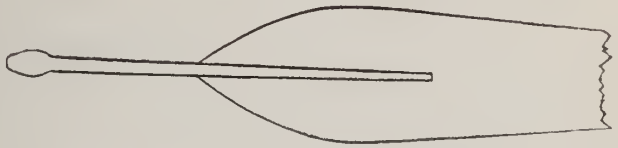
To the Editor of the Lancet: Sir—By Mr. Vincent Jackson's able letter in the Lancet of March 7, I find that he and I have been working in the same direction as regards improvements in lithotomy instruments. I do not say this in the least disparagement of his originality, for I am sure he had no more knowledge of my proposals than I had of his. During the last ten years I have had made, and have repeatedly used, both on the dead and the living, various modifications of the double-cutting gorget, with probe-point, and designed for use with a median incision. The last which I have made is, I should suppose, almost exactly like that contrived by Mr. Jackson, and I am very glad to read his testimony as to its easy use and the neatness of the section of the prostate which it makes. I believe it will prove a very valuable instrument, and I was only waiting for further experience before bringing it under the notice of the profession.

Although our knives, or rather gorgets, are, I suspect, alike, and although we both propose a median external incision, yet I am sanguine that I have got a little further than Mr. Jackson in

one or two points. My staff is rectangular, and at the end of the groove is a little thimble to receive and retain the probe-point of gorget. Instead of making the gorget move on a staff which is fixed, I pass the probe end of the former forwards into the thimble, and having thus locked both firmly together, I then take the staff from my assistant, and pass both together forwards and upwards into the bladder. Thus the great danger of the cutting gorget, that it may slip from the staff, is obviated. With a rectangular staff the whole of the groove is quite straight, and the probe finds its way in much more easily than on a curve. There is not the slightest difficulty in introducing it.

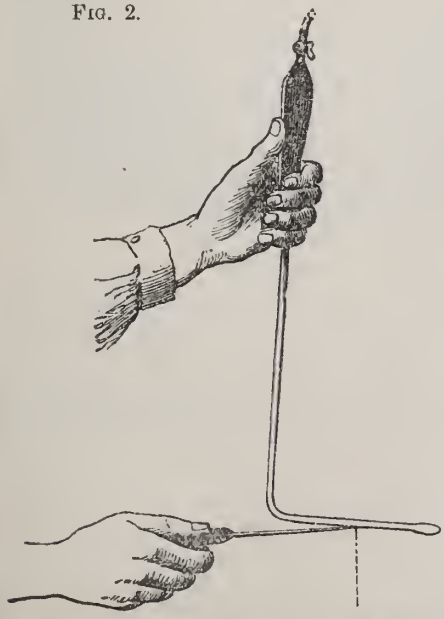
The accompanying woodcuts will explain my instruments.

Fig. 1.



In Fig. 1 the flat surface of the gorget is shown, and the proportionate length of its probe end. It is taken from one made for me by Krohne about a year ago.

Fig. 2.



In Fig. 2 the gorget and staff are seen together as they would be just prior to the final thrust. The dotted line indicates the part where the probe joins the blade. The whole of the probe is concealed in the thimble and groove of the staff. The blade is of course seen edgewise.

The advantages of the proposed method are: 1. Median incision of external parts, and diminished risk of hæmorrhage. 2. Ease, certainty and celerity of performance. 3. A bilateral section of the prostate of determinate size, certain to afford plenty of room, and yet certain not to wound the capsule. 4. The certainty that no injury will

be inflicted upon the important parts in the floor of the prostatic urethra.

The merit of the invention of the rectangular staff, of course, rests with Mr. Buchanan, of Glasgow. He, however, proposes its employment for a special kind of operation. I have never myself performed his operation, but I think very highly of the convenience of the rectangular form of staff. Mr. Buchanan thought the instrument not suited for the ordinary lateral operation, and deprecated in strong terms its use for that purpose. I have not found his prognostications verified. I believe I have performed upwards of forty lateral lithotomies on a rectangular catheter staff, and certainly have no intention to go back to the curved one.

Whilst on this subject, may I be permitted to express my conviction as to the extreme importance of the use of a tube after the operation. If this were general, I believe it would prevent many deaths. Especially is it valuable in the adult, in whom the long, deep wound causes risk of infiltration of urine. The tube which I use was described in the columns of the Lancet about eighteen months ago. It consists of a large silver canula, curved at the end. Through its whole length is passed a continuous piece of sponge, which, projecting into the bladder, soaks up the urine, and conveys it away with a degree of certainty which a mere tube would not afford. Instead of silver, an india-rubber tube, of a quarter-inch bore, might be used, with, of course, the sponge passed throughout, and projecting well at each end. The outer end of the tube may be received into an india-rubber bag or larger tube, and thus the patient's bed kept dry during the first few days. Of my last eight lithotomies in the adult (most of them in old men), all but one have made good recoveries; and I attribute the success very largely to the use of the tube. The man who died was believed to be the subject of disease of the kidneys at the time of the operation.

I am, sir, yours, etc.,

—*Lancet.* JONATHAN HUTCHINSON.

"*Transparent Treatment.*" *A New invention for the cure of Burns and other Affections of the Extremities:* By SAMUEL W. FRANCIS, M. D., (Fellow of the New York Academy of Medicine.)

THE accompanying drawing and description of a new apparatus, invented by me, is for the treatment of burns and other affections of the extremities, and which may prove of benefit to the profession.

As may be seen by the engraving, the scalded arm is placed at once in the glass glove; each finger finding its own division, which, though separate, is joined externally like a mitten, to pre-

vent breakage; and water dressings, lime water, or kreosote water, etc., allowed to flow in from the upper stop cock; an india rubber band or its equivalent preventing its exit. By this means every portion is effectually bathed in the fluid used, and the attending physician is enabled to examine, at all times, the injured member without distubing it, or exposing the surfaces to the action of the air. If it be desirable at any moment to draw off the water, etc., by turning the stop-cock at the end of the little finger, it at once flows freely. Glass can be sufficiently strong to prevent its being broken by ordinary usage, as it is very desirable that the limb be kept still. Three sizes would fit almost any grown patient, and for children, a smaller arm could be in readiness.

I claim, moreover, that by the use of this glove, or boot, if it be the leg that is injured, water or its equivalent could be forced in by a pump, with sufficient power to produce pressure, which at times is very desirable.

Besides this, a new plan of treatment could be adopted which might at first seem beyond reason. I speak of introducing gases, vapors and their equivalents for the cure of burns, ulcers, and similar affections. Many arms are materially injured by the adhesion of the bandages to the sores, and not infrequently spha-

celation is found to have commenced upon the surgeon's removing the covering from a flayed hand. These and many other thoughts arise in connection with the benefit of this "transparent treatment," but enough has been said for practical purposes, and I would feel grateful to hear the result of any case that has been submitted to this plan, which admits of many modifications. *Newport, R. I., Nov.* 25, 1867.—*Medical and Surgical Reporter.*

Ovariotomy: By Prof. W. W. Green, of the Medical School of Maine.

General Remarks.—From a thorough study of my own cases, and of those which I have seen in the practice of others, with a

somewhat careful examination of the literature of ovariotomy, I am led to the following conclusions.

1st. That, wherever the tumor is large, it is impossible to form any accurate estimate of the extent or strength of adhesions that may exist, before reducing the bulk by tapping, and even then extensive visceral adhesions may be present which cannot positively be detected. It is not safe to argue the absence of such attachments because the patient has not suffered from marked symptoms of peritonitis, for the reason that such an inflammation often occurs sufficient to produce very firm adhesions, and yet so latent as to escape notice.

2d. The existence of adhesions is no contra-indication for an operation, but on the other hand, such cases, even when the bands are numerous and strong, do the best as a rule. They suffer less shock and are less liable to peritonitis. The membranes seem, by the previous morbid action, to have acquired a tolerance of such disturbing causes as would awaken inflammation in one that had never been diseased.

3d. In preparing the patient great care should be taken to secure a healthy state of the secretions, and the system be sufficiently impressed with the muriated tincture of iron to insure plasticity of the blood.

4th. The *utmost* gentleness and delicacy should be observed in all manipulations by surgeons and assistants. Strange as it may seem, this most important rule is too often violated to my personal knowledge. There is no excuse for unnecessary handling of parts by rough, dry or cold hands, or exposure to the air a moment after the operation is completed.

5th. A most powerful prophylactic against shock and subsequent inflammation is the free use of artificial serum (common salt ʒj., albumen ʒj., pure water Oj.) *at blood heat.* Keep the parts thoroughly and constantly moist with it.

While I believe that this serum, acting as a mechanical protection to the parts, is in this way of great advantage, I still attach *much more importance to the heat.* A moment's reflection will convince any one theoretically, that a delicate serous membrane suddenly exposed to the air, and its temperature reduced twenty or thirty degrees, and maintained at that point for any length of time, is much more liable to inflammation than one which has been carefully kept at or even near its ordinary heat, and that too by the application of a liquid almost precisely like its natural secretions; and my own cases of abdominal section afford to me conclusive evidence that this is true. In none of my cases has there been anything like collapse.

Nor is this application of heat to be restricted to this class of operations. I have latterly discarded the use of cold water for sponging during any operation which exposes a large raw surface. In large amputations, in dissections for the removal of large tumors especially about the neck and trunk, I am thoroughly convinced that the shock is very much less, as also the danger of

inflammation, if hot water be used instead of cold. The cases where hæmorrhage requires the substitution of cold are so exceptional as not to invalidate the rule. I would much prefer multiplying ligatures to chilling the parts.

I prefer an elevated temperatue of the room, but consider the moisture of the atmosphere of little importance, comparatively.

6th. The treatment of the pedicle in the cases reported seems to me more reasonable than any other. The use of the clamp for the fastening of the pedicle in the external wound by any means is only applicable to long pedicles, and even then in case of peritonitis with much distention, is a serious complication, as also in subsequent pregnancies. To this is to be added the danger of intestinal strangulation. The same objections obtained against Dr. Storer's recent proposal to pocket the pedicle with additional ones in case primary union fails. The actual cautery is unreliable, and so is the ecraseur notwithstanding the few cases in which the latter has been successfully used.

The cutting of the ligatures short and dropping the stump back into the abdomen would of course be *the* plan if safe. But in the first place the immunity from sloughing is by no means established, and in very many if not all the cases there must be, aside from any such process, a collection of fluids serous sero-sanguinolent or purulent, more or less, which had much better be readily discharged than left to the care of the absorbents. (I know of one case that was reported cured by this operation, that died, after all, of septicæmia.) In all my cases there was a vaginal discharge from the first, usually slight and varying in character. By carrying the ligatures down through the posterior *cul de sac*, all danger from this source is obviated. The opening is made at the most dependent part of the pelvic cavity where the fluids will naturally gravitate, and where they will thus find a ready exit. The pedicle is more effectually secured by the ligatures than by any other means, and if carried through the vagina they produce no noticeable irritation, and after their work is done no foreign body is left in the abdomen, and at the same time the external wound is allowed to heal by first intention.

But another great value of the opening into the vagina is the facility which it affords for washing out the abdominal cavity, to which procedure I attach so much importance.*

The after treatment must be conducted upon general principles, and not according to any fixed rules. I think the cases very rare

* After trying several different modes for passing the ligature through the canal, I prefered the following. Pass into the vagina a pair of common, uterine dressing forceps, with the blades closed, and push their point upward in the *cul de sac* until, looking into the pelvic cavity, the surgeon sees the membranes stretched over them behind the uterus. While in this position open the blades a little, pass a bistoury through the septum between them, close them, pass through the opening, seize the ligatures and drag them downward out through the vagina.

I obtained the idea of thus disposing of the ligatures as also of using artificial serum, from Prof. E. R. Peaslee, of New York.

where large quantities of opium are required or can be borne without harm.

Finally, the case must be a very peculiar and urgent one upon which I would operate and leave the patient for after treatment in the hands of another person, except it be one who was experienced in the management of such cases.—*Boston Medical and Surgical Journal.—March 2*, 1868.

Reduction of Dislocation of Femur into the Ischiatic Notch, by Manipulation : By GEORGE W. CALLENDER, F. R. C S., etc.

THERE is, one very evident obstacle to the reduction of this class of dislocations to which attention may be directed, as it seems to give the only fair explanation of the difficulties which are experienced in the treatment by extension as well as by manipulation. When the head of the bone lying on the ischiatic notch is pulled forward by extension, it is drawn over the convex outer surface of the acetabulum ; but instead of passing towards the socket it happens, from the formation of this part of the pelvis, that it can follow an easier route which is open to it. From the lower part of the great sciatic notch, a broad smooth, pulley-like surface leads to, and then curves around, the inferior border of the acetabulum, and thence ascends towards the obturator foramen. The obturator internus above, and the great sciatic nerve, and the upper border of the obturator externus below, rest within it ; but between these the groove is covered with fat, and from its surface fibres of the capsular ligament take their origin. If the head of the femur be placed in its corresponding pelvis in this groove it will be seen how accurately the convexity of the head of the bone fits the concavity of the ischium. If also the head of the femur be placed on the sciatic notch, and is then moved towards the socket, it will be found that it slips over the convex outer surface of the acetabulum, and is directed into and along the groove just referred to ; and this I believe must happen when extension is employed for the reduction of these dislocations—the head glides below the socket, and slips up again when extension is remitted. In attempting to replace the femur by manipulation, as this operation is usually practised, by the rolling outwards of the shaft, the head is also carried along this groove, its progress through which may be traced easily enough, and incurs the risk of passing around the acetabulum, so that the head, when the thigh is extended, comes up on the obturator side, or rises even to the pubes, having described a half circle below the socket. This rolling of the head round the acetabulum is a chief objection to the plan of reduction by manipulation, and is almost sure to occur if the thigh is rotated outwards; in this way the ischiatic nerve has been seriously crushed, and the bruising of the parts has been such as to give rise, in one instance at least, to subsequent disease of the hip-joint.

To return to the case before us. After the patient had rested for several days I adopted the following plan:—The thigh was bent upon the abdomen, and I slowly moved the limb into a straight line with the body, so that the head of the bone could be felt projecting in the buttock, outside the tuber ischii. The limb, in a straight line with the trunk, without allowing any rotation outwards, was then drawn forward from the abdomen, and forced downwards (extended), and the head of the bone at once slipped into the acetabulum. These movements were made slowly and steadily, and the limb was extended with care, remembering the great leverage which we were making use of, and the position of the head, which was being pressed up into the socket. In two recorded cases the neck of the femur has been broken under a somewhat similar strain.

If these manœuvres are examined by the help of the skeleton, it will be found that by flexion, and by moving the thigh into a straight line with the body, the head is brought from the notch into the groove just above the outer side of the tuber ischii. Here it is opposite the least prominent part of the lower edge of the acetabulum, and if the femur is depressed whilst in this position the head easily slips into the socket. Dr. Markoe, with the addition of a rocking movement as the thigh is extended, and Dr. Hamilton, employ somewhat similar manœuvres, and they speak favorably of their success.—*Lancet.*

[The danger alluded to by this writer can be readily obviated without the necessity of extending the limb, by availing ourselves of the anterior border of the pelvis as a fulcrum, by which the head of the femur may be lifted over the rim of the acetabulum. When, in the common method of reduction by manipulation, the thigh has been flexed on the abdomen, the limb is arrested from further flexion by coming into contact, at a point corresponding to about the junction of the upper and middle third of the femur, with that portion of the pelvis just below the anterior superior spine of the ilium, covered of course by the soft parts. If this fact be borne in mind by the surgeon, and *forced flexion to even a slight degree be combined with or slightly precede the rotation*, the femur at about the junction of its upper and middle third is pressed against the border of the ilium as a fulcrum, just below the anterior superior spine of the same, and the inevitable result is that the head is lifted up over the edge of the acetabulum, when the slightest rotation—outwards for any form of posterior, and inwards for any form of anterior dislocation—will with the assistance of the muscles, etc., throw the bone into place. The dynamics of this special method of effecting reduction in such cases will be at once perceived by going through the process on the skeleton. I have recently put it in practice with marked success in a case of dislocation on the dorsum of the ilium in the Charity Hospital in this city. S. L.]

Injuries of Elbow-Joint; Rule of Treatment: Prof. H. J. Bigelow.

ASCERTAIN if the olecranon is broken, which can be done with comparative ease, as it lies near the surface; this injury requires a special treatment. In all other injuries of the elbow-joint, whether you are able to make an exact diagnosis or are wholly unable to do so on account of the swelling, *treat them as though the forearm had been dislocated backward, and secure the arm at about right angles to an inside angular splint.* The propriety of this measure will not be doubted with regard to the more common dislocations of the arm. The very rare instances of the radius dislocated forward, or the all but impossible forward dislocation of the ulna alone, would doubtless declare themselves, and the bones would be replaced during the manipulation. Practically speaking, they are so rare that they need not be taken into account. But among the fractures, the transverse fracture of the lower end of the humerus; the T fracture into the joint; the fracture of the inner or outer condyle separately; the comparatively rare fracture of the coronoid process of the ulna; or of the radius or ulna near the joint, are all properly treated by the expedient above described: while the common injuries of the lower end of the humerus, including the fracture of the internal condyle into the joint, in most cases peremptorily demand it. In these cases, it is sometimes difficult or impossible to make an accurate diagnosis; but the above treatment covers the whole of them and does harm to none, while it is the omission of it, as I believe, that directly leads to deformity in a large proportion of them.—*Boston Medical and Surgical Journal.*

Epistaxis and the Means of Arresting it.

DR. John Thompson, (British Medical Journal—Canada Medical Journal,) recommends the following simple, and, in his hands, very successful treatment, as a substitute for the ordinary method of plugging the nares. A strip of lint, as broad as the finger and twice the length of the nasal passage, is folded over the "bowl end" of an ordinary director, and introduced along the floor of the nostril until it reaches the throat. The director is then withdrawn, "giving it a wriggling movement, so as to leave the lint rumpled and loosely distending the passage. The result is, that that the blood rapidly permeates and distends the lint, a large coagulum is formed, and the bleeding completely arrested."—*Humboldt Medical Archives.*

Tar-Water in Catarrh of the Bladder.

NUMEROUS observations have shown positively the indisputable efficacy of tar in the treatment of catarrhs of the bladder; it is

the best modifier of the mucous membranes of all the genito-urinary organs. Its action is prompt and remarkable; it increases the urinary secretion, facilitates the exit of the urine, and calms the intolerable pains which are known only to those affected with this disease. Tar-water is prescribed in these affections by the mouth and by injections in the following doses :—For injections (three times daily), one part of tar-water to four parts of water. As a drink (five times daily), a teaspoonful of tar-water to a cup of water.

Observations made at the hospitals for the aged, in Paris. —*L'Evénement Médicale.—Boston Medical and Surgical Journal.*

A New Form of Cystitis.

Dr. Heller, in charge of the Pathological Chemical Laboratory of the Imperial General Hospital in Vienna, made the following communication before the Society of Physicians of that city: In cases of vesico-rectal fistula it not unfrequently happens that as, on the one hand, the urine flows into the rectum, giving rise to liquid stools; so on the other, fæcal matter finds its way into the bladder, and is found in the urine discharged. It has, however, escaped the observation of the profession up to this time that a form of cystitis exists, in which, with a completely closed bladder, fæcal matter shows itself in the urine. Heller has observed twenty cases, partly in hospital, partly in private practice, where investigation shows fæcal matter in the urine during life, and an autopsy discovered a normally closed bladder. According to his experience this form of cystitis occurs in certain inflammatory affections of the brain and spinal cord. The presence of fæcal matter in the urine will be apparent on treating it with concentrated sulphuric acid. An intense fæcal odor will thus be developed. He succeeded in these cases in separating the fæcal matter from the urine by the processes of distillation and filtering. According to Dr. Heller's observation, this urine, in comparison with that of other forms of cystitis, is less viscid and contains but little mucus or sediment. In all cases where such a cystitis (which he would call *cystitis fœculenta*) occurred, the prognosis was very bad and death soon supervened.—*Allgemeine Wiener Zeitung. —Boston Medical and Surgical Journal.*

Parasitic Origin of Syphilis and Gonorrhœa.

Dr. J. H. Salisbury, of Ohio, who, it will be recollected, contends that he has discovered the fungoid origin of malarial fevers, has recently published a description of two cryptogams, which he has designated the *crypta syphilitica* and the *crypta gonorrhœa*, contending that they are respectively the cause of

syphilis and of gonorrhœa. The former, he says, has a special predilection for the connective and fibrous tissues generally, for cartilage and fibrine, in which positions it may be found in various stages of development from spores up to filaments, which latter may be single or collected in masses and have rounded extremities. These forms, when engrafted into the tissues, he says, may remain comparatively passive or undergo rapid development, giving rise to the varying phenomena of syphilis.

The crypta gonorrhœa confines itself to the epithelial surfaces, and according to Dr. Salisbury is only to be met with in cases of gonorrhœa. Gonorrhœal pus globules are sometimes, as he affirms, filled with the spores of the cryptogam, which also appears as filaments in a further stage of development.

Tumors Treated by Electrolysis : By JULIUS ALTHAUS, M. D., M. R. C. P. etc., Physician to the London Infirmary for Epilepsy and Paralysis.

THE entire number of cases I have up to the present time treated by electrolysis amounts to sixty-three; amongst these there were fifty-two non-malignant, and eleven of the malignant kind.

The total result of the treatment of fifty-three cases of non-malignant tumors is, thirty-two cured, fourteen improved, and in six no result, or, if there was any result, it is not known; that is, expressed in percentage, sixty-two per cent. were cured, twenty-six improved, and in twelve there was no result, or result unknown. Almost all the unsuccessful cases occurred in the commencement of my electrolytic practice, when the method of procedure had not been so well developed as it is now.

In *malignant diseases* the results of the treatment are, as might be expected, far less favorable. Whenever the cancer is one of considerable size, and growing rapidly, relief may be obtained, and the further growth of the tumor may to a certain extent be checked, by electrolysis, but I have not hitherto obtained a cure of such patients. In two cases of scirrhus of the breast, where the tumor was only of the size, in one of a nut, and in the other of a nutmeg, the swelling has entirely disappeared. For the healing of an open cancer, the treatment seems to answer well; but I must say that in no case of malignant disease have I ever trusted to electrolysis alone, but have prescribed powerful remedies to be taken internally, for thoroughly modifying the constitution of the patient. Perhaps in course of time a mode of more continuous application of the electrolytic process may be discovered, by means of which we may be able to starve out even malignant tumors with more success than has hitherto been obtained. The facts that the peculiar lancinating pains of cancer generally disappear soon after the commencement of the treatment, and that, even in rapidly growing cancers, the growth is

often checked by it, seem to show that, by steadily working in the same direction, a remedial agent so powerful as that of electrolysis may yet be found to be instrumental in overcoming the local manifestations of this terrible disease.

The length of time necessary for dispersing tumors varies according to the nature of each individual case. The length of each application varies from a few minutes to half an hour or even an hour.

The safety of the treatment, which is its chief characteristic feature, seems to me in a great measure due to the fact of its belonging to the domain of subcutaneous surgery; for, although there is always a certain amount of action on the skin, yet by far the greatest effect is produced in the interior of the tumor, owing to the superior electric conductivity of the soft and warm internal structures, and also owing to the fact that the electrolytic effect is, under any circumstances, greatest on the points of the needles. Moreover, the eschars produced by prolonged applications are generally perfectly dry, and the skin below them is quickly regenerated, unless this should be prevented by complications, such as external injury.—*Medical Times and Gazette.*

On the Circular Ulcer of the Stomach.

Dr. Gerhardt believes that a gastric ulcer is generally produced by some obstruction of the circulation in the blood-vessels of the stomach, in consequence of which at a certain part of the inner coat of the viscus the alkaline blood-plasma is not supplied to neutralize the acid excretion of the gastric glands, which then acts upon and dissolves the mucous membrane. The lesion is, in many instances, attributed by the patients to some injury over the stomach, or to a severe attack of vomiting. The greater the excess of acid in the stomach and the smaller the amount of blood circulating in this organ, the more readily is a gastric ulcer produced; and for this reason are chlorotic and ill-nourished individuals more frequently affected, and also brandy-drinkers, whose eructations are intensely acid. Dr. Gerhard's treatment consists chiefly in putting the patient upon a very regular and a long continued diet made up of milk, white of egg and meat. To make this tolerable, the use of small quantities of white bread, green vegetables and cooked fruits is occasionally allowed. The pain attending gastric ulcer is relieved by astringent agents, particularly sesquichloride of iron, nitrate of silver and bismuth; the first named remedy is indicated when the patient is exhausted and anæmic from hæmorrhage, and it has the advantage of not depositing the peptones. Dr. Gerhardt objects to the use of morphia except in cases of severe vomiting, when he injects this agent subcutaneously. When an excessive amount of gas is found in the stomach, the internal administration of charcoal and cold applications externally will prove of great service.—*Weiner Med. Presse, No.* 1, 1868.—*British Medical Journal.*

Four cases of Exeision of the Inferior Dental Nerve are reported in the Amer. Jour. Med. Sciences, in which Prof. Gross completely relieved the severe sufferings of the patients. From two and one-half to three inches of the nerve were removed after trephining.—*Medical Record.*

[In connection with the above, the following case, occurring in the private practice of Prof. W. S. Mitchell, might be mentioned. The account of the case is taken from his manuscript notes.—S. L.]

"Was called to see, on August 3d, 1867, Mr. J. H., a seafaring man by profession, aged 70, in consultation with Prof. Smith.

"Mr. H. had been suffering for some time with severe neuralgia, extending over the entire one side of the face, and to some extent to both the larynx and pharynx. After existing for some time as a mere derangement of sensation, the condition finally changed to one of both motion and sensation; until, at the time of seeing him, there existed an entire inability either to masticate or articulate, a condition which had existed for eight days, during which time mastication had been impossible, owing to very severe spasms accompanied by great access of the pain. An operation was performed to-day by dividing the seventh pair, near its exit from the mastoid foramen. This operation gave immediate relief.

"August 10th. The relief from the operation proved only transitory, the pain and spasm returning in a few days, though in the meantime the patient has been enabled to take considerable nutriment. To-day, upon consultation with Prof. Logan, and Dr. J. W. Caldwell, it was determined to divide, from within the mouth, the inferior branch of the fifth. This was done, and the relief was again instantaneous.

"October 15th. The last operation has proved perfectly successful, the patient being entirely relieved. He continued totally free from the nervous derangement till his death from an attack of asthma in the following November."

Inguinal Hernia Strangulated by an Artery.

Dr. John Cleland reports in the British Medical Journal a case of strangulated inguinal hernia, in which the cause of constriction was found to be an artery, probably "an obturator artery, arising from the epigastric and arching upwards in its course, or by a common trunk of unusual length, from which the obturator and epigastric arteries were given off nearer the middle line." The vessel was first ligated in two places and then cut between the points of ligation; the strangulation was at once relieved and the patient ultimately recovered.

The Treatment of Wounds upon the Antiseptic and Subcutaneous Principles: By WILLIAM ADAMS, F. R. C. S., Surgeon to the Great Northern and Royal Orthopædic Hospitals, etc. Read before the Medical Society of London, March 2, 1868.

I propose to submit to the consideration of the members of this Society, this evening, some observations on the antiseptic and the subcutaneous principles of treatment of wounds; and especially to show how far these principles may be relied upon separately, as guiding us in the treatment of different classes of wounds, and to what extent we should rely upon the two principles in combination.

First, then, with regard to the antiseptic principle, for the development of which into the system of treatment, based upon the "germ theory" of M. Pasteur, and applicable to extensive injuries and large lacerated wounds, such as in severe compound fractures, the profession is indebted to Prosessor Lister, of Glasgow.

It is true there is no novelty in the application of antiseptics to open wounds; and even the antiseptic which Professor Lister has selected—viz., carbolic acid—has been extensively employed by surgeons, and a large book on the subject of carbolic acid and its use in medicine, by Dr. Lemaire, had in 1865 reached its second edition; but still, as pointed out by Professor Syme, there is great novelty and originality in the method of applying the antiseptic adopted by Mr. Lister, as based upon the "germ theory" of M. Pasteur.

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The theory of M. Pasteur is simply this—that instead of regarding the septic or decomposing properties of the atmosphere as due to the oxygen and moisture, as generally believed; the decomposing properties are supposed to depend upon the universal diffusion through the atmosphere of minute organic molecules, which, by their development in the blood or serous exudation in wounds in which they are deposited, give rise to fermentative and putrefactive changes.

Mr. Lister observes:—"We know from the researches of Pasteur that the atmosphere does contain among its floating particles the spores of minute vegetations and infusoria, and in greater numbers where animal and vegetable life abound, as in crowded cities or under the shade of trees, than where the opposite conditions prevail, as in unfrequented caves or on Alpine glaciers . . . and it is peculiarly in harmony with the extraordinary powers of self-diffusion and penetration exhibited by putrefaction that the agents in this process appear to be 'vibrios' endowed with the faculty of locomotion, so that they are able to make their way speedily along a layer of fluid such as serum or pus." And in a footnote to this Mr. Lister observes:—"I have seen vibrios, so minute as to be only just discernible with the highest powers of an excellent microscope, shoot across the field of view with a velocity that astonished me."

The best general account of Mr. Lister's views is given in a paper read by him at the annual meeting of the British Medical Association in Dublin on August 9, 1867, and reported in the *British Medical Journal* September 12, 1867. In this paper he observes—"But when it had been shown by the researches of Pasteur that the septic property of the atmosphere depended not on the oxygen or any gaseous constituent, but on minute organisms suspended in it, which owed their energy to their vitality, it occurred to me that decomposition in the injured part might be avoided *without excluding the air* by applying as a dressing some material capable of destroying the life of the floating particles."

"The material which I have employed is carbolic or phenic acid—a volatile organic compound which appears to exercise a peculiarly destructive influence upon lower forms of life, and hence is the most powerful antiseptic with which we are at present acquainted. . . .

"In conducting the treatment, the first object must be the destruction of any septic germs which may have been introduced into the wound, either at the moment of the accident or during the time which has since elapsed. This is done by introducing the acid of full strength into all accessible recesses of the wound by means of a piece of rag held in dressing forceps, and dipped in the liquid. This I did not venture to do in the earlier cases; but experience has shown that the compound which carbolic acid forms with the blood, and also any portions of tissue killed by its caustic action, including even parts of the bone, are disposed of by absorption and organisation, provided they are afterwards kept from decomposition."

The facts placed on record by Mr. Lister are of course beyond question, and are, no doubt, a faithful record of cases treated upon the antiseptic principle advocated by him, and these results show undoubtedly a larger amount of success in wounds than is generally met with. But still I do not feel inclined to accept Mr. Lister's explanation of these successful cases as based upon the "germ theory" and caustic antiseptics. I believe, on the other hand, that for these brilliant results Mr. Lister is mainly indebted to the adoption of the subcutaneous principle, the patient under the advantages of the system recovering even from the effect of caustic antiseptic in addition to the injuries sustained.

One clinical fact which to my mind appears to be opposed to the "germ theory" is the frequency with which wounds, under apparently unfavorable circumstances, healed by the first intention, without inflammation or suppuration, which we should expect would more generally occur if suppuration depended upon organic molecules always floating in the air, and therefore always ready to enter wounds where they would germinate and promote putrefaction.

The practical question is whether antiseptics are to be employed upon the "germ theory" of M. Pasteur, and applied of caustic strength to the deep recesses of recent lacerated and contused

wounds of large size, such as in severe compound fractures, at the risk of causing further destruction of tissues and necrosis of bone; or whether they are to be used simply as antiseptics in a mild and unirritating form, with the sole purpose of preventing decomposition and putrefaction, such as would arise from exposure to the oxygen and moisture contained in the air, the healing of the wound being conducted essentially according to the subcutaneous principle—*i. e.*, the exclusion of the air by the mildest and least irritating means. My own opinion is strongly in favor of the latter view, and opposed to the application of caustic antiseptics.

This can only be determined when time has afforded other surgeons sufficient opportunities for deciding whether mild and unirritating antiseptics, applied to large wounds in combination with the subcutaneous principle of treatment, yield results equally as good as those reported by Mr. Lister as obtained by means of caustic antiseptic applications. I confidently anticipate they will do so, and observe that in a series of seven cases, including several severe accidents and injuries, treated by Mr. Syme upon the antiseptic principle, and recorded in the *British Medical Journal* of January 4 of the present year, no reference is made to the employment of caustic antiseptics. Mr. Syme observes:—"The preparations employed by Mr. Lister, which have been adopted here, may be denominated carbolic oil, carbolic lotion, and carbolic paste. The composition of the first is carbolic acid and boiled linseed or other fixed oil, in proportion of one to five; that of the second, carbolic acid and water, in the proportion of one to thirty; and that of the third, carbolic acid with whitening, in the proportions requisite for the consistence of soft putty." In these cases the wounds were sponged with the weak carbolic lotion, which, in the cases of compound fractures, was also freely injected between the broken ends of the bones, and lint soaked in it applied over the wound, which was also covered with the carbolic paste. In some cases the carbolic oil was used instead of the lotion. The results were, in all the cases, unexceptionally good, and I cannot doubt but that this practice will be generally followed, embodying, as it does, in a scientific manner the combination of the antiseptic with the subcutaneous principles.

To a certain extent it may be said that the practice is the same —viz., to exclude the air from the wound—whether this be done upon the "germ theory" or upon the theory of oxygen and moisture causing decomposition; but if the "germ theory" leads of necessity to the application of caustic antiseptics, then a wide difference in practice is at once established.

There can be no doubt that the greatest improvement in the treatment of wounds which has taken place in modern times, and that to which many lives are indebted for their existence, and by which many limbs have been saved, is the introduction of the antiseptic principle. Antiseptic lotions have now taken the place of water in the ordinary dressing, washing, and cleansing of

wounds. We have, however, yet to determine by experience which shall prove to be the most efficient application, and amongst those generally in use are, the lotion of carbolic acid in the proportion of one part of the acid to thirty of water, or even weaker; Condy's fluid, which during the late wars proved so useful in army practice, and has long been in use in our general hospitals; and lime-water diluted with equal parts of water, which, in inflamed and suppurating wounds, I have been in the habit of using for many years.

Whilst fully admitting the importance of the antiseptic principle, with the exception only of the application of antiseptics strong enough to act as caustics, such as the strong carbolic acid applications sometimes used, I am desirous of submitting to the members of this Society that there are other applications and modes of dressing wounds of known efficiency; some of these owe their efficiency more to the subcutaneous than the antiseptic principle, whilst others depend more upon their combination in equal proportions of the antiseptic with the subcutaneous principle.

As examples of the first class in which the subcutaneous principle is chiefly relied upon, I would mention, first, the method of dressing wounds simply with their own blood and dry lint. In this method the great object is to avoid exposure, or, at any rate, long exposure, of the cut surfaces to the air; and in this way, if no water be used, the wound being dressed only with dry lint, and a light pressure maintained by a bandage, incised wounds of considerable size, such as remain after the removal of moderate-sized tumors, amputation of fingers, etc., may be brought into a condition nearly as favorable to the reparative process as in true subcutaneous injuries and operations. All surgeons are familiar with the facts that large incised wounds, when treated in this way, as they sometimes are by patients in the absence of medical aid, frequently heal by the first intention, which would not have happened had the wounds been longer exposed to the air, or if they had been washed with water.

Few practitioners have recognized the importance of excluding the air from open wounds, and still less have surgeons recognized the decomposing influence of water; but I may mention that for some time I have been in the habit of washing wounds with ether, instead of water, which I have found to contribute to the healing of many lacerated wounds, which appeared unlikely to heal by the first intention. Hippocrates, when speaking of the treatment of compound fractures, says:—"The wound is to be dressed in the summer with compresses soaked in wine; in the winter they should be dipped in oil, and the dressings will need renewal every day." I, for one, should certainly admit that, as a dressing for wounds, oil and wine are preferable to water.

Next to the simplest and most natural dressing of blood and dry lint is the method of dressing incised and lacerated wounds, even in compound fractures, with lint soaked in compound tincture of benzoin—the old Friar's balsam of well-deserved notoriety.

This plan was based chiefly upon the subcutaneous principle, its object being by the exclusion of air to bring a compound fracture as nearly as possible into the same conditions as a simple fracture, but some of its advantages were undoubtedly due to the antiseptic properties of the tincture of benzoin. The late Mr. Bennion, of Oswestry, in Shropshire, adopted this plan, and obtained considerable reputation by his successful treatment of cases of compound fracture, accidents of frequent occurrence in this district. After setting the fracture, he covers the wound with a large piece of lint saturated with compound tincture of benzoin. He never disturbed the first dressing unless urgent symptoms indicated the necessity of so doing, and if such symptoms did not appear, he would allow the first dressing to remain for a month.

Another simple method of treatment, which owes its advantages chiefly to the subcutaneous, but in some degree to the antiseptic principles, is that of thickly covering wounds with collodion, a remedy which was long in favor till its advantages were eclipsed by Dr. Richardson's new discovery of his colloid styptic, which has far higher claims to the notice of the profession, in consequence of its fulfilling the combined indications of the antiseptic and the subcutaneous principles in a higher degree than any other application hitherto employed.

"The process of manufacture of the fluid," to quote from Dr. Richardson's lecture on the subject, "is tedious, but sufficiently easy. The object to be aimed at is to saturate ether entirely with tannin, and a colloidal substance, zyloidine or gun-cotton. In the first step of the process, the tannin, rendered as pure as it can be, is treated with absolute alcohol, and is made to digest in the alcohol for several days. Then the ether, also absolute, is added until the whole of the thick alcoholic mixture is rendered quite fluid. Next the colloidal substance is put in until it ceases readily to dissolve. For the sake of its agreeable odor, a little tincture of benzoin is finally admixed. . . . .

"When the solution is brought into contact with an open surface of the body, the resultant phenomena are these: The heat of the body gradually volatilises the ether and the alcohol, and the tannin and cotton, as the ether leaves them, are thus left stranded on the surface in intimate combination. In proportion as the ether passes off, the blood or the secretion of the surface permeates the tannin and cotton; but tannin acts directly upon albumen, coagulating it, and transforming it into a kind of membrane, almost like leather. The cotton meanwhile unites the whole, gives substance to the mass, and adhesive quality. When all is solidified, the dressing becomes, in fact, a concrete, having a true organic hold or basis on the tissues; and as the tannin, if the solution be freely applied, is in excess, any new exudative matter or blood is for several hours taken up by it, and the annealing is made the more complete.

"Thus, by this dressing the air is excluded from every possible

point in every possible direction, not by a mere septum, but by the combination of the animal fluids with the remedy; and because the air is excluded and fluid is absorbed, there is no decomposition—*i e.*, no oxidation; and because there is no oxidation, there is no irritation. . . . .

"In cases of compound fracture, after the parts have been brought into apposition as far as possible and fixed in the necessary position, the fluid should be poured slowly into the open cavity so as to fill it. Then the parts externally, should be covered with a layer of cotton-wool saturated with the solution.

"On open cancer, and on suppurating or decomposing surfaces, the solution may be freely applied with the brush, and, afterwards, the parts may be covered with cotton wool saturated with the fluid.

In no case need there be any fear that irritation will follow the application of the solution. On the contrary, the action of it is so purely negative that it might be considered a sedative. It is not such in the technical sense of the term, but it so effectually covers the wounded and susceptible surfaces as to maintain what is virtually a sedative influence."

I have now for more than a year, used Dr. Richardson's colloid stypticin a large number of cases of incised and lacerated wounds, some of formidable dimensions, with complete success in a large proportion of cases. In two-thirds of the cases so treated, I can with confidence assert that union by the first intention has been obtained; or that the reparative process has proceeded either without suppuration, even in bad cases, or with the suppurative process reduced to a very insignificant amount, and in no instance have I seen any injurious effects. In about one-third or one-fourth of the cases, the styptic had to be abandoned in consequence of suppuration occurring, and antiseptic lotion relied upon.

The largest operation in which I have applied it—or rather I should say that in this case Dr. Richardson himself was kind enough to apply it—was amputation of the foot, by Chopart's operation, in a young gentleman aged nineteen years, for extreme deformity of the foot. To our delight we found it, three days after the operation, healed throughout, but, unfortunately, from the bandage adhering to one of the long ligatures, I, in removing it there, tore open the newly healed wound for the space of a quarter inch. At this broken spot about a teaspoonful of purulent matter formed two days later; but this little break was very quickly reunited, and on the sixteenth day after the operation the patient was able to return to the country with complete healing by the first intention, and without having suffered one symptom of a constitutional kind."

Another case was that of compound dislocation with fracture of the second phalanx of a finger, produced by a cricket ball at Lord's ground. The patient, Captain McN., came to me immediately after the accident, and after reducing the dislocation and

applying three metal sutures I applied the colloid styptic and bandaged the finger to a straight splint. On the fourth day finding no indication of inflammation, I allowed the dressing to remain, and did not remove it till six weeks after the accident, when I found the wound not only well cicatrized, but the callus was less than I expected, and some motion existed at the joint, which subsequently became quite free.

Another case was one of enchondromatous tumor, growing from the interior of the first phalanx of the third finger of the left hand of a young gentleman, Master K., upon whom I operated on April 3, 1867. My colleague, Mr. Gay, assisted me in the operation, and held the extensor tendon on one side, whilst I gouged out the growth from the interior of the bone, extending as closely as possible to the articulations at either extremity. I applied the colloid styptic to the interior of the bone, and, after applying metal sutures, painted the wound over with the styptic, and applied a little cotton wool saturated with it as a dressing. No suppuration occurred, and the wound healed completely under the first dressing, the boy recovering motion at both the articulations. Nothing could be more satisfactory.

Under my direction a large number of incised and lacerated wounds, including many of considerable size and many scalp wounds, have been treated by the application of styptic colloid at the Great Northern Hospital, by Mr. P. Hopgood, the House Surgeon. * * * * *

The methods of treatment and local applications to which I have referred, have mostly been considered in relation to their power, of promoting union by the first intention in wounds of moderate size, or a reparative process without suppuration in wounds of greater magnitude. We have to deal, however, with wounds in which suppuration is already established, and with open ulcers of a more or less chronic character. To these antiseptic lotions are especially applicable. But time will not permit of my entering upon this portion of our subject, which has of late derived additional interest from the study of the antiseptic principle and antiseptic remedies.

I would merely mention that among the most valuable antiseptic lotions are—carbolic lotion made in the proportion of one part of carbolic acid to thirty of water, or probably one part in a hundred would be found strong enough for ordinary purposes: Condy's fluid, weak iodine solutions, and weak solutions of chloride of zinc, and also a lotion which has hitherto received much less attention than it deserves—viz., lime water, as well as solutions of potash and soda. I may add that the alkaline solutions have for many years been favorites of mine, and that it has been my practice to apply lime water constantly as a lotion to the surfaces of all ulcers and suppurating wounds; it cleanses the sore very quickly by chemically destroying all the pus cells and the secretion on the surface, and also diminishes the inflammatory congestion by its direct solvent action upon the fibrine of the blood

in the distended capillary vessels, so that by endosmosis the condition of stasis of the red corpuscles in the capillary vessels is removed. I always use it of full strength in indolent and sloughy ulcers, in which it acts most efficiently in deodorizing the ulcer, and as a slight stimulant; but in irritable sores I use it diluted with equal parts of water.

Lime-water, in combination with oil, has long been a favorite remedy in cases of burns and scalds, and in combination with calomel as black wash, and with bichloride of mercury as yellow wash, has long been considered beneficial in many cases of specific ulceration; but, as I have generally considered the benefit to result from the lime-water rather than the mercury, I have used it simply as an alkaline antiseptic lotion in this class of cases.—*Medical Times and Gazette.*

QUARTERLY RECORD OF OPHTHALMIC AND AURAL SURGERY.

COLLATED BY W. S. MITCHELL, M. D., PROF. OF ANATOMY, OPHTHALMIC MEDICINE AND SURGERY, NEW ORLEANS SCHOOL OF MEDICINE.

Case of Hæmhorrhage on the Foramen Centrale: By HENRY POWER, F. R. C. S., M. B. Lond., Ophthalmic Surgeon to St. George's Hospital.

THE following case, which has lately been under my care, is one of considerable interest, and presents a remarkable general similarity to that of Dr. Harley, lately recorded in the columns of the Lancet.

John B——, aged seventeen, a French polisher, came to the Westminster Ophthalmic Hospital on the 8th of February, 1868, complaining that all objects seen with the right eye appeared of a red color. He had observed this symptom for seven weeks. The patient was a small, thin lad, with ruddy face, pinched expression, and stammered most painfully. On external examination the eye appeared perfectly healthy. Its tension was natural. The iris was dark-brown, and responded actively, both directly and reflectorially, to variations of light. He stated that he was reading by gaslight, when he observed a small red spot, the size of a split pea, between the page and his eyes. He soon found that the right eye only was affected. He was in no way alarmed, but continued to read for an hour, during which time the spot gradually increased in size till it attained that of a sixpence. There was no pain at the moment of the appearance of the spot, but in the course of a few minutes he experienced some sharp shooting pain in the eye, and in the course of the supra-orbital

nerve. There appears also to have been a considerable degree of intolerance of light, accompanied by lachrymation; but in the course of two or three hours these symptoms gradually passed off, and there has been no recurrence of them. On presenting various small circles to him, at a distance of ten inches, he picked out one as being exactly covered by the spot, which was, as he had stated, just equal to a sixpenny-piece in diameter; its edges were well defined. On looking at a pale-green-colored blank wall, at about the distance of eighteen feet, he saw a dark brick-red spot, about the size of a man's head, and the rest of the field of vision was of a dull-grey color. With the left eye he had a myopia of one-fourth, but he could see to read the smallest of Snellen's test types with facility. The acuteness of vision of the right was so far lowered that he could only just see No. 18 of Jager's test types. On ophthalmoscopic examination, the pupil being dilated with atropine, the eye was noticed to be perfectly tolerant of light. The media were very clear. The optic disc was cleanly defined, rather more pink than natural, vertically elongated with a beautifully marked small posterior staphyloma on the apparent inner side. The external and larger choroidal vessels were very distinct. The foramen centrale was nearly at the same level as the optic disc, and rather nearer to it than usual. It presented a minute clot of blood. The central retinal vessels were rather larger and more numerous than usual, but not tortuous, and one ran in close proximity to the spot, and could be followed beyond it. I was unable to observe any indication of a rupture in this vessel, showing that the hæmorrhage had proceeded from it. The fundus of the left eye presented the same character as the right, with the exception of the blood spot; the color of the foramen was dark, but formed a marked contrast to that of the right eye. He was ordered decoction of cinchona, tincture of cinchona, and bichloride of mercury, and was directed to give up his work, which involved much straining and stooping.

On Feb. 24th the spot had slightly changed its appearance, the central part being of a deep black-red color, but the periphery of a smoky hue, apparently from infiltration of the coloring matter into the adjoining tissue. The subjective symptoms were unaltered.

On March 3d the dusky halo had become fainter. His vision was much improved; he could see No. 12 of Snellen's test types, and he stated that the red spot was smaller, and that the excentric portions of the fields of vision were much clearer. In this state he remained without change to March 10th, when a relapse occurred, with some shooting pain and lachrymation, in consequence, apparently, of his return to work, and the muscular exertion required. He was then admitted into St. George's Hospital, where he still remains. The red spot resumed its original size, and its color has become darker, during the last month. The principle changes, objective or subjective, that have been noticed are that the color of the red spot seen by himself, though it is

still quite opaque, has become lighter red when he looks towards the light, and assumes, for the space of a minute, the complementary color of a bright green when he looks towards a shaded part of the room, changing again to red after the lapse of that time. He can now see No. 5 of Snellen with the right eye at the distance of two inches. The small staphyloma has increased in size, and has become much more strongly shaded on its surface, presenting a shrivelled appearance, which renders it probable that its formation has been recent, perhaps only just antecedent to the occurrence of the ecchymosis.

It is a matter of interest to determine the origin of the blood in these cases. Does it proceed from the choroidal vessels, or from the branches of the arteria centralis retinæ? I am inclined to think from the latter; first, because the subjective symptoms clearly indicate that the effusion is in front of the sentient surface; and, secondly, on account of its very limited extent, which is in accordance with the extremely small size of the retinal capillaries, which may with care be seen to traverse the immediate vicinity of this portion of the retina, and from the rupture of one of which I presume it would proceed.—*Lancet.*

Case of Double Cataract.—Schuft's Operation—Anterior Chambers Washed out with Tepid Water—Good Results: By ALFRED ROBERTS.

ELLEN R., a widow, aged 46, was admitted to the Sydney Infirmary on March 5, 1867, suffering from double lenticular cataract. She states that about twelve months previously the sight began to fail in the left eye. Vision became gradually obscured, and in six months there was almost total blindness. At this time similar symptoms commenced to show themselves in the right eye, and progressed to the same termination; she can now do little more than distinguish night from day. The cataract in both eyes is more or less mottled and whitish, the mottling being greater in the left than in the right lens. The general health is good but not robust. She was ordered a solution of atropine (gr. ij. ad ℥j.) to be applied night and morning for a few days, to take an occasional mild aperient and a light nutritious diet.

April 23.—The weather has been unfavorable for operating up to the present time, but to-day the left eye was submitted to Schuft's operation under chloroform. The nucleus of the lens having been readily removed with Bowman's spoon, a considerable quantity of soft cortical lens substance was found to be left in the anterior chamber and corneal wound. After removing a small portion of this with the suction curette, Mr. Roberts syringed out the anterior chamber with tepid distilled water which had been provided for the purpose; it was done without difficulty and with the most satisfactory results, by reserving the

action of the suction curette, the anterior chamber being left clear, and the corneal wound clean.

27th.—Until to-day the patient has been perfectly free from any untoward symptom, but she now complains of a good deal of pain shooting through the eye and temple. Upon removing the bandage, the sclerotic is found to be vascular, and a piece of lens substance is seen in the anterior chamber.

℞ Hirudines iij. Pil. colocynth. comp. cum hydrarg. statim. Haustus sennæ comp. post tertias horas. Guttæ atropiæ nocte maneque applicandæ.

May 13th.—Antiphlogistic treatment has been continued to this date, and the eye is now free from inflammatory action.

℞ Haustus quiniæ c. magn. sulph. ter in die.

17th.—Discharged with good sight, to return in a few weeks to have the right eye operated upon.

June 26.—Readmitted. The left eye looks clear, and bears a strong light, but a fine band or two of thin capsule confuses the sight to some extent.

July 10.—Chloroform administered, and Schuft's operation performed upon the right eye, the anterior chamber being washed out by three introductions of the suction curette.

14th.—Bandage removed. No pain or inflammation.

17th.—Not the slightest untoward symptom since the operation.

18th.—Symptoms of pain and inflammation similar to those which occurred after the first operation, though in a much less degree, came on to-day. Antiphlogistic treatment was ordered as on the former occasion, with the addition of a morphia draught at bed-time.

20th.—Pain less; vascularity reduced; loose fragments of lens substance visible in the anterior chamber. The pain being now apparently neuralgic, the patient was put upon quinine three times a day.

August 12th.—No symptom has occurred since the last date. She can read with ease moderate sized type without the aid of a lens. The upper three-fifths of the pupil is quite clear, the lower two-fifths being obscured by capsule. Discharged.

Remarks.—My object in publishing the foregoing case is to call the attention of the profession to the plan I adopted to get rid of the fragments of soft lens substance which usually remain after extraction of the nucleus by the spoon. Disliking the reintroduction of this instrument, and being averse to the frequent use of that useful instrument, the suction curette, I determined to try the effect of washing the fragments away as mentioned in the notes. The immediate results surpassed my anticipations, and the progress of the case during the first few days after each operation satisfies me that the procedure is unproductive of harm, if not actually beneficial. The attack of inflammation from which the patient subsequently suffered on each occasion appears to have arisen from the escape of a small portion of lens substance

into the anterior chamber which had lodged behind the iris, and was thus unaffected by the stream of water. To avoid this evil, which evidently arose from the inapplicability of the curette to the purpose in view, I have instructed Mr. Weiss to make a syringe which will not only be more easy in manipulation, but will also direct three diverging streams into the posterior or anterior chambers at the will of the operator.

Should this suggestion be new to your readers, as it is to me, I trust that it may be adopted for more extensive trial, the result of which I shall look forward to with great confidence.—*Medical Times and Gazette.*

Inflammation of the Globe of the Eye and Ocular Capsule, following Accouchement. (Service of Dr. WILLIAMS.) Boston City Hospital. Reported by O. F. WADSWORTH, M. D.

MRS. ——, aged thirty years, was attacked, two weeks after confinement, with intense pain in and about the left eye, accompanied by much tumefaction of the tissues of the orbit and lids. When first seen, about a fortnight later, the pain and swelling were in part relieved, and the effect of the previous distention was still evident in the flabby condition of the skin of the lids. The conjunctiva was thickened and highly vascular, pouring fourth an abundant muco-purulent secretion, and between the insertions of the external and inferior recti muscles a purulent secretion existed under the conjunctiva, which had probably made its way forward from the posterior part of the fibrous capsule in which the eye revolves. Vision was entirely extinct. The interior of the globe showed deep-seated opacity, resembling that sometimes observed in cases of cerebro-spinal meningitis, and this opacity, seemingly due to an effusion of morbid products upon the choroid and retina, extruded itself through the vitreous nearly to the lens, and along the posterior surface of the iris to the pupillary margin, causing adhesion to the anterior surface of the crystalline. She gave no distinct account of the treatment which had been followed. Only palliative treatment could now be of any avail.—*Boston Medical and Surgical Journal.*

Removal of Foreign Bodies from the Ear.—London Hospital—Notes of cases under the care of Mr. HUTCHINSON.

THE method we are about to describe is so simple that probably it may have occurred to others, and it has indeed been recommended in print by Mr. Hutchinson some time ago. It has, however, not yet found its way into our best manual of Aural Surgery (Toynbee, by Hinton), which advises the disappointing plan of syringing, whilst others still recommend the dangerous use of forceps or scoop. Instead of trying either of these, let the surgeon

take six inches of fine wire and double into a loop; then, having the patient placed on his side, pass the loop into the ear as far as it will go, and turn it a little gently. At the first or second withdrawal the foreign body will come out in the loop. The wire being flexible gives no pain, and cannot possibly do damage. It is almost certain to find its way round the foreign body, however deeply the latter may be placed, or however closely it may fit the cavity. Mr. Hutchinson asserts in his advocacy that it is very much easier to use, very much safer, and lastly that he has several times succeeded with it in cases where other means had utterly failed. The scoop he regards as especially likely to do mischief, since it involves pressure against the wall of the auditory canal. There is in the London Hospital Museum part of the temporal bone of a child who died in consequence of a small bean having been forced by the scoop through the membrana tympani into the inner ear.—*Medical Times and Gazette.*

The state of the Optic Nerves and Retinæ as seen in the Insane: A paper read before the London Royal Medical and Chirurgical Society, by Dr. T. CLIFFORD ALLBUTT.

THE author stated that he was first led to examine the eye by the ophthalmoscope in that form of insanity known as general paralysis. He did so in the chance of finding disease in the vessels of the retina resembling that which is described as existing in the blood vessels of the brain in that disease. This was not the case; but another change—viz., atrophy of the optic nerve—was constantly found. Having thus commenced optic researches among the insane, the author was led to continue them. The considerable proportion of cases in which he found changes more or less great, led him also to think his observations worth publishing. He hoped that by means of the ophthalmoscope one more effort would be made finally to establish the study of insanity upon a positive basis. A lunatic asylum is, in fact, a museum of cerebral diseases; and the direct observation of an offshoot of the brain like the optic nervous apparatus may, in such cases, be most valuable. It may serve not only as a means of decision between "structural" and "functional" disorder, but may also serve as an interpreter of the modes both of structural and of functional changes. For many reasons the author preferred to schedule his cases in accordance with a classification of mental disease rather than according to the supposed origin or nature of lesions. The cases were taken chiefly from those in the West Riding Asylum at Wakefield; some also were taken from the North and East Riding Asylum at Clifton near York. The author expressed his warm thanks to Dr. Crichton Browne, of the Wakefield Asylum, and also to Dr. Christie, of the York Asylum, for their kind interest and aid in his observations. In all 214 cases were examined. Of those from the two asylums, Dr. Browne and Dr. Christie have furnished the brief diagnostic remarks

which are placed upon the schedules. *General Paralysis*; Dr. Allbutt examined fifty-three cases. In forty-one of these cases distinct disease of the optic nerve was found, seven are marked as doubtful, and five were normal. He drew the following conclusions from his schedules:—1. That atrophy of the optic disc takes place in nearly every case of general paralysis, and is commonly accompanied by atrophy of the olfactory nerves. 2. That it is not to be distinctly seen until the end of the first stage, as it slowly travels down from the optic centres. 3. That it begins as a pink suffusion of the nerve, without much stasis or exudation, and ends as simple white atrophy. The author likened this process to the so-called "red-and-white softening" in the brain. 4. That the atrophy of the nerve is not in constant proportion to the ataxy of the muscles of the orbit. 5. That it is in relation with the state of the pupil, which is contracted during the early stages, and dilated in the fully atrophic stage. 6. That as the symptom is not a very early one, it probably has not much diagnostic value; its pathological significance is probably considerable. *Mania:* Of this disease the author brought forward fifty-one cases. In twenty-five cases symptomatic changes were found with the ophthalmoscope; thirteen cases were noted as doubtful; and thirteen were either healthy, or presented non-symptomatic lesions, such as glaucoma, etc. He made the following propositions:—1. That the ophthalmoscope reveals symptomatic changes in a large number of cases of mania. 2. That these are most common where other symptoms of organic disease exist, and seem not unfrequently to depend upon meningitis. 3. That, after a paroxysm of mania, there remains a paralysis of the blood-vessels in and about the discs, causing obvious hyperæmia. 4. That during the paroxysm there is, perhaps, a spasm of these vessels, as suggested by one case. 5. That the permanent changes are those of stasis, of consecutive atrophy, of simple atrophy, or of a mixed character. *Dementia:* Out of thirty-eight cases, the author found marked disease of the optic nerves or retina in twenty-three, he recorded six as doubtful, and nine were healthy. Many of these cases were known to depend upon organic disease, and, like those of mania, were chosen for their severity. In simple acute dementia, however profound, if independent of organic disease, the author thinks no optic changes takes place. *Melancholia* and *Monomania* were tabled together for convenience. Of seventeen cases, in three only was found disease of the eye. Few of these cases depend upon organic disease. Anæmia of the retina was commonly found, however, in melancholia. *Insanity depending upon Epilepsy:* Forty-three cases were noted. In fifteen, disease of the optic nerve or retina was found, nine were doubtful, and nineteen showed no change. Simple epilepsy is not commonly followed by disease of the optic nerve. In most of the cases presenting optic changes, organic disease was known to exist from the other symptoms. *Idiocy:* The author had previously noticed amaurosis in idiots. He examined, therefore, twelve cases; and he found marked atrophy of the discs in the

large proportion of five, one was changing, and two were noted as doubtful.—*Medical Times and Gazette.*

On Latency of Optic Neuritis in Cerebral Disease: By J. Hughlings Jackson, M. D., Physician to the Hospital for the Epileptic and paralyzed, and Assistant-Physician to the London Hospital.

Mr Hutchinson has drawn attention—Dec. 21, 1867, p. 670—to an observation I have made respecting the latency of optic neuritis, and I find, from your editorial columns of Jan. 5, that Dr. Clifford Allbutt's experience confirms it. So far as the observer is concerned, the discovery is a very small matter. Any Physician who will use the ophthalmoscope by routine must quickly discover the same fact. Yet the obvious deduction is really a very important one in practice. This is fairly embodied in the following quotation—italicized in the original—from a paper ("Observations on Defects of Sight in Diseases of the Nervous System") which I published in the Royal London Ophthalmic Hospital Reports, vol. iv. pt. iv. p. 403:—"It is, I submit, imperative, in all cases of severe cerebral disease, at all events in cases of an acute kind, to examine the eyes with the ophthalmoscope, whether the patient complains of defect of sight or not."

I should now make the statement much stronger by adding "even if he affirms that he can see well, and if he read small type readily." A patient, after an ophthalmoscopic examination revealing optic neuritis, will sometimes, on being asked how long his sight had been bad, make a remark like this—"I didn't know there was anything the matter with it"—and may be able to read brilliant. If this statement, at first glance, seems strange to an ophthalmologist, I would beg him to bear in mind that patients are not likely to come under his notice until their sight fails. When the patient is speechless, or when he is partly or wholly insensible, we cannot test his sight even roughly, and we must use the ophthalmoscope.

I have occasionally had the somewhat painful feeling that the accuracy of my ophthalmoscopical examination has been doubted by physicians whose opinions I highly value, when I have declared that patients with severe cerebral disease, who seem to see quite well, had inflamed optic discs. But there can be no possibility of mistake in cases of severe optic neuritis, as the appearances are striking and are very easily recognised—no mistake, I mean, in recognising that the retinal veins are very irregular, that the course of the arteries is much obscured or quite lost, that there are little clots of blood scattered near the swollen disc; for these things are face to face with us when we are using the ophthalmoscope. They may exist when the patient can read small print easily. I have never laid stress on slight alterations in the color of the discs, or on slight abnormalities in the sizes or course of the large retinal vessels. The slighter changes are im-

portant—irregularity of the veins is very important—but it is plain that healthy optic discs differ. Moreover, observers differ in their opinions as to the meanings of slightly unusual appearances, and we may get as far wrong by attaching too much importance to slight appearances as by altogether over looking decided pathological changes.

I shall take an early opportunity of drawing attention to the general symptoms which should compel us to use the ophthalmoscope, and shall at the same time remark on Acute Cerebral Diseases, or Cerebral Fever, as a certain grouping of symptoms —of which amaurosis from optic neuritis is often one—has been conveniently called.—*Medical Times and Gazette.*

Fibro Plastic Tumor of the Rectus Oculi in a Child: By J. Vose Solomon, F. R. C. S., Surgeon to the Birmingham and Midland Eye Hospital, etc.

A little boy, aged four, was sent to me in May, 1867, by Dr. Malins of Cradley. I found a tumor of the size of a small hazelnut, occupying the site of the external rectus muscle of the left eye, and extending under the outer wall of the orbit. It was hard, painless, smooth, and apparently adherent to the sclera. The mother's attention was first attracted to the eye some two or three months previous to her attendance at the hospital. The child's health was and had been good. Of local injury, there was no history.

On June 3d, I proceeded to the removal of the growth, chloroform anæsthesia having been efficiently induced by Mr. Henry Denne, our house-surgeon. The tumor now proved to be free from conjunctival and scleral adhesions, yet was only slightly moveable, so tightly was it bound to the globe. It was of greater width than the rectus muscle.

Operation.—An incision was made over the centre and in the direction of the fibres of the abductor down to the surface of the swelling. Failing to discover any muscular fibres, which, had they been present, would have been carefully preserved, I at once detached the anterior insertion of the muscle, and reflected back the tumor which was contained in the sheath of the former. Rather forcible traction and curved scissors were needed to remove the end which lay under the osseous orbit. More than one-third of the rectus was involved in the mischief.

The wound in the conjunctiva having been sutured, the globe was fixed by the same agency to the outer canthus. A portion of the inner rectus was afterwards excised, with a view to balance, if possible, the shortened and enfeebled abductor.

The child returned home in nine days cured; a moderate amount of convergence, and a slight enlargement of the pupil, being the only unfavorable results of treatment. The globe could be brought to the centre, but no farther.

On section, the tumor was found to be of very firm consistence, white, and uniform in structure; near to its centre and ocular side were two cells or cysts, which contained yellow pus.

In six months after the treatment, the appearance of the eye was the same in all respects as on discharge; and the case and specimen were presented for examination to the Birmingham and Midland Counties Branch.

Fibro-plastic tumors occur at all ages, but more frequently between the twentieth and thirtieth years. The features of interest in the present example are the tender age of the subject, the particular muscle selected for the diseased manifestation, and the early period at which a disintegrating process had commenced.

Had the parents of the little patient refused from any cause surgical interference, the probability is great that the pus would have made its way to the surface and have been discharged, a fungus would have protruded, the tissues of the eye in contact with it would have inflamed, and the appearance of the growth have become so much altered as to render its real nature difficult of diagnosis, and the necessity of excision of the globe imminent. —*British Medical Journal.*

Glaucoma with Fistula Cornæ as a Safety-Valve.

A middle aged grocer, of Bury, with an atrophied right eye-ball, has for some years been under observation and treatment on account of recurrent serous choroiditis of the left eye. There is well-marked excavation of the rather blanched optic disc; and an inferior external leucoma adherens, with a slightly vesicular centre, by the giving way of which the aqueous humor is allowed to ooze off, especially during the night. Failing this, the patient reappears with his eye-ball tense, symptoms of choroiditis, and impaired vision. The restoration of the fistula by puncturing of the pellicular centre of the leucoma has more than once resulted in the vision rising from J 20 to J 1 (Moorfield's types). It is thought that an iridectomy cannot be delayed much longer.— *British Medical Journal.*

Displacement of the Lens.

In the right eye of a patient, amaurotic from advanced bilateral atrophy of the optic nerve, the transparent lens, from the almost total giving way of the suspensory ligament, is seen to have passed through the widely dilated pupil into the anterior chamber, and to lie pretty close to the cornea, its lower and detached edge, about one line above the sclero-corneal junction, resembling the segment of an arcus senilis. Reference was made to the glaucomatous conditions induced by displacement of the lens, as illustrated by Mr. Bowman; and a characteristic case in a child recently seen by Professor von Graefe, and at present under Dr. Samelson's observation, was related in detail. Professor von Graefe has extracted the opaque lens, the transparent capsule of

which was adherent to the cornea, from the glaucomatous and partly staphylomatous right (and only remaining eye), with a beneficial effect upon the (still very imperfect) vision. In the atrophied left eye, displacement of the lens, probably congenital, and having induced glaucomatous disease, appears to have resulted in rupture of the cornea and subsequent phthisis.—*Brit. Med. Jour.*

Case Illustrating the use of the Ophthalmoscope in Medical Diagnosis.
London Royal Hospital for Disease of the Chest, City Road.
(Under the care of DR. SANSOM.)

WALTER M——, aged eleven, was admitted as an out-patient on Nov. 16th, 1867. He complained of shortness of breath, pain in the chest, and severe headache. Two years before his admission, whilst at school, he complained of dulness of sight. For twelve months he has been losing flesh. He has suffered from headaches, which latterly have increased in severity, and they now give rise to crying and fretfulness, and the height of these paroxysms is described as "dreadful." The hereditary tendencies are as follows: father suffers from chronic bronchitis; mother has frequent headaches, so also have the brothers and sisters; one sister suffers from rickets and general debility. The following describes his condition: Thin; small flabby muscle; pale; head large and flattened; teeth much notched; high arch of palate; slightly deficient resonance in left apex of chest; here dry râles, and respiration harsher than in right. Ordered counter irritation to the chest by turpentine liniment; one grain of iodide of potassium and half an ounce of infusion of bark three times a day. No improvement followed; on the contrary, the headache became frightfully intense; it occurred every afternoon at two oclock, and was accompanied by screaming.

Considering the emaciation and the physical signs suspicious of an early stage of pulmonary tubercles, Dr. Sansom was led to fear that the violent headache might be due to incipient intracranial tubercle. To investigate this point he made an ophthalmoscopic examination. He found that the fundus of each eye was rather paler than usual; the optic entrances were of their normal color, and the vessels were small. In each eye the appearances were perfectly similar. This examination tended to negative the idea of tubercle in the meninges; for it would be probable in such case to discover hyperæmia instead of anæmia, and the perfect similarity of each would not obtain.

The following treatment was adopted: cantharides blisters behind each ear; ten grains of bromide of potassium, afterwards increased to fifteen grains, three time a day; cod-liver oil twice a day.

The boy gradually improved, and on January 18th the note states, "He is mending very greatly, is livelier, and the pain in his head has greatly disappeared. The pulv. soda c. ferro of the hospital Pharmacopœia was added to the treatment."—*Lancet.*

QUARTERLY RECORD OF PRACTICAL MEDICINE.

COLLATED BY J. DICKSON BRUNS M. D., PROF. PHYSIOLOGY AND PATHOLOGY, NEW ORLEANS SCHOOL OF MEDICINE.

Instrumental Diagnosis—Sphymography.—By PHILIP S. WALES, M. D., Surgeon U. S. Navy.

THE sphygmograph, derived from two Greek words, signifying *pulse* and *pen*, was first applied in physiological researches upon the circulation of the blood, but recently has been turned into another channel—the investigation of disease.

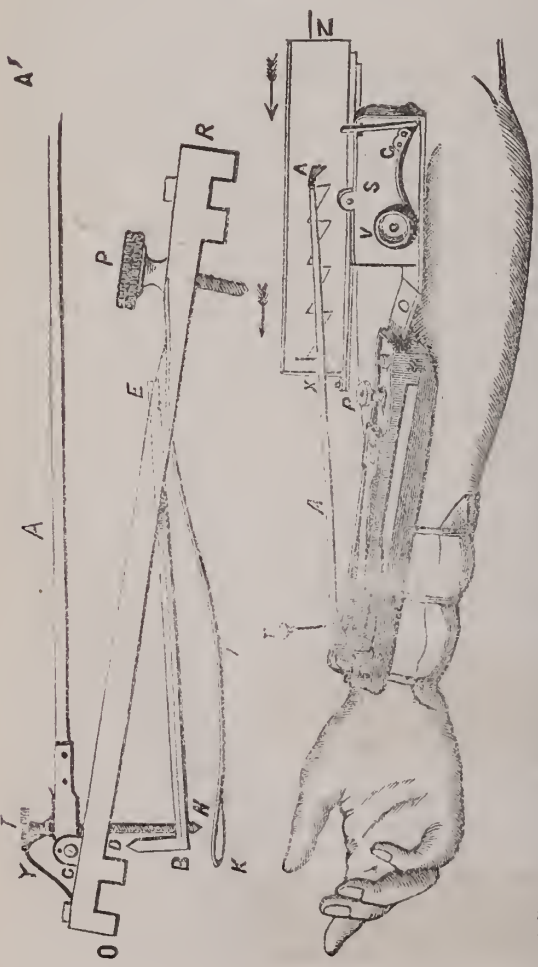
The difficulty of accurately appreciating and estimating the properties or qualities of the pulse in health and disease by the unassisted senses, has always stood in the way of progress in the knowledge of the value of its indications, and therefore has prevented the attainment of much accurate and reliable prognostic and diagnostic information from its examination in disease. The tactile power, by means of which we gain such knowledge, is, however, so various in different persons, that with the same pulse different impressions as to its qualities of fulness, force and volume, may be conveyed to them, and therefore different conclusions will be arrived at, though the conditions of the observation be the same. To appreciate the innumerable variations of the pulse, and their import in prognosis and diagnosis, a long individual training is absolutely required, when the sense of touch is alone employed in the investigation. Even after this knowledge has been acquired, it is of that sort of individual possession which cannot be transmitted, to another or taught by any form of words you choose to adopt, while the tactile power is so various, except in the most imperfect manner.

From this imperfection of the sense of touch in accurately determining the character and import of the pulse qualities, the working physician will gladly welcome any extrinsic aid from physics, in giving more certainty to his observations and deductions in the daily pursuit of his profession. This important desideratum is now promised him in the sphymograph.

As early as 1837, King, of London, in order to make more evident the motion of certain veins presenting the phenomenon of rhythm, employed a lever for amplifying its extent. Later, Vierordt, a German physiologist, applied the same happy idea to the ascertainment of arterial rhythm, and by means of the lever was enabled to make evident to the eye in the form of diagramatic sketches, the qualities of arterial action; but the great objection to his instrument is that the lever is too heavy, and so poised that its tracings were too uniform, and the component lines nearly vertical and parallel under all variations in the arterial current, and so far they did not represent the various pulse-forms correctly, or possess sufficiently distinctive and characteristic properties as to enable the physician to draw any conclusions as to the various morbid states of the circulating and other organs.

With a view of correcting this manifest imperfection in the instrument as a diagnostic mean, Dr. E. J. Marey, of Paris, well known for his scientific attainments as a physiologist, and as an acute observer, modified it in many material points, so as to produce almost an altogether new instrument. He simply retained the lever motion of the instrument of Vierordt to multiply the extent of arterial action, and then appended other portions to it, so that the complete apparatus worked in such complete harmony, and with such accuracy, as to enable him to present to the eye the most faithful representations of the pulse forms under the most varying conditions of disease.

Fig. 1.



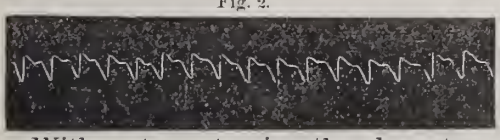
A metallic plate, (*R O*,) furnished with movable lateral wings, forms the frame of the instrument, and is in the shape of a section of a hollow cylinder, the concavity of which may be altered at pleasure to fit it accurately to the fore-arm. At the sides of this frame there are 6 hooks, three upon a side, which enable the instrument to be fastened to the part securely by means of a cord passing around them alternately from side to side. The end of a steel spring (*I*) is attached to the back part of the plate, and projects forward to the position of the artery, being brought perpendicularly in contact with it by a little ivory plate interposed between them. The

motion of the artery is transferred from this steel spring to the tracing lever, by a metallic stem (*B D*) bent upon itself placed between them, connected by its long arm (*B E*) to the spring and touching the lever near its centre of motion, which is at the anterior edge of the metallic frame, by the distal end of its short arm; the relation of these three parts to each other and to the artery are regulated by two milled-headed screws, *T and P*. The tracing lever carries at its distal end a pen which marks upon a paper, supported upon the oblong plate *N N*, the tracings; the paper is moved its whole length every ten seconds, as the writing goes on, by the watch work *S*, which is wound up by a button key *V*, and started or stopped at will by a regulator placed at the side of the instrument.

Variation of arterial tension, which is the agency in producing the difference in the pulse-form, is due, according to Dr. Marey, in a great measure, to causes which may be arranged in two principal groups. In the first, are those causes which facilitate the passage of the blood through the capillaries, thereby inducing a *low arterial tension;* in the second, those which obstruct its course in the capillaries giving rise to a *high tension*. The physical condition culminating in these variations of tension are, according to these views, 1st, either mechanical, as the alteration of the position of the subject, and by compressing the arteries so as to arrest the free flow of the blood through them; 2d, or by causing the construction or relaxation of the smaller vessels so as to obstruct the blood in its course to the veins. Every cause which contracts them, as for instance, the application of cold will result in an *elevation* of the arterial tension; every cause which relaxes them, as warmth will *lower* the tension. It follows from all this, that the principle conditions for alterations of tension are induced by causes acting upon the periphery of the animal body.

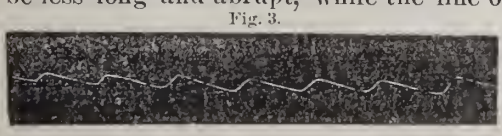
The pulse-forms corresponding with these two states of arterial tension, are well marked and characteristic. With a low tension the first element of the pulsation, or the *line of ascent*, will be steep and ample, while the third element or *line of descent*, will present the form of undulations. This pulse-form is well shown in the accompanying tracc Fig. 2.

Fig. 2.



With a strong tension the characters of the tracings will present a strong contrast with the preceding; the line of ascent will be less long and abrupt, while the line of descent will move off obliquely in a straight line, i. c., free from dicrotism, as is shown in Fig. 3.

Fig. 3.



The above two traces show that the frequency of the heart's action is also affected according as the tension is greater or less; being more frequent with less tension and the reverse.

Two forces, *systolic acceleration* and *increased arterial tension*, are transmitted through the arterial system, and acting simultaneously and conjointly, produce the pulsations in the aorta and great vessels, at the root of the neck. Passing further on in the divisions and subdivisions of the vessels, these forces are no longer coincident, and separate more and more as they proceed.

Pulse-traces taken at a time when ventricular contraction and natural tension are active and physiological, present a number of continuous curves, each representing a complete cardiac revolution. Each curve consists of three parts—a *line* of *ascent*, a *summit*, and a *line* of *descent*, which require individual notice, inasmuch as they are the factors which varying in character as to form, length, regularity and height, furnish the indication, in their different combinations, of the state of the circulation in health and disease.

The line of ascent is produced by the systolic contractions of the ventricle, which propagates an instantaneous pressure-wave from the heart to the artery upon which the sphygmograph is placed. This line varies in height, according to the facility with which the pressure-wave overcomes the arterial tension—being greater, if this is easily effected, and less under reverse circumstances. The position of the line as to verticality is determined by the rapidity of the efflux of blood into the arteries; the greater this is, the more quickly will arterial tension be established and nearer will the line approach a vertical position. When the entry of the blood is languid the line is described in an oblique direction and sometimes in a curved one.

The first change in the direction of the tracing lever forms the summit of the curve. It corresponds to that period when the blood is passing into the artery and thence onward, or when the *afflux* and *efflux* mutually balance each other. According as this period is longer or shorter, the summit will present either a point or a line of some height; in the latter case if the afflux predominates, instead of a horizontal line, we should have one with an upward slope, and under reverse circumstances one with a downward slope.

The line of descent presents a greatly waved form with three deviations form a rectilinear course, reckoning the apex of the curve as the first. The second wave represents an expansile movement in the arterial walls, and marks the termination of the systolic portion of one cardiac revolution. The notch following the second wave answers to the period of closure of the semilunar valves. The third wave succeeding the aortic notch is caused by a renewal of the action of the arterial walls. After describing the third wave, the tracing bar falls until it reaches the point which marks the period of *minimum* arterial pressure. In the normal condition of the circulation a straight line should just

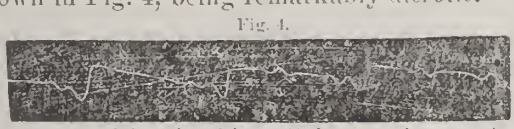
touch the pieces of the successive curves, which indicate the points of *maximum* tension, and runs parallel with a similar line connecting their bases, which are the points of *minimum* tension.

In certain cardiac diseases and in febrile derangements, the second wave is effaced, the aortic notch deepens, and the third wave is somewhat exaggerated, thus a two-waved line of descent is formed and the pulse-form is said to be *dicrotic*. Dicrotism varies in degree with the nature and intensity of the febrile disease; if the bottom of the aortic notch reaches half way to the base-line of the curve, the pulse is designated *subdicrotous*, if the notch touches the base-line, *full dicrotism* is established; and in exceedingly bad cases of fever the notch extends below this line giving a *hyperdicrotic* pulse-form.

The pulse-forms of valvular disease will vary very much, according to the nature of the alteration and its situation. These morbid conditions are rarely single, but are associated in various degrees of complexity, and the pulse-forms must necessarily be also complexed in their forms; these may, however, be analyzed into their simple forms, and these forms connected with special anatomical changes.

In mitral regurgitation the pulse is always markedly small, irregular, and of unequal force, in consequence of the blood being forced, in the cardiac systole, back into the auricle, thereby destroying the influence of the primal wave upon the elasticity of the aorta and its subdivisions. The pulse-trace is here characteristic, as shown in Fig. 4, being remarkably *dicrotic*.

Fig. 4.



If in connection with mitral insufficiency, there exist narrowing of the auriculo-ventricular orifice, the ventricle will not have time to fill itself between two systoles, and as a result of this, the primal wave thrown into the aorta will be very small, but the pulse-trace will not present the same amount of irregularity as the one above, which is characteristic of pure mitral insufficiency.

In organic disease of the semilular valves of the aorta, the pulse-traces are equally distinct. Obstruction or narrowing of the aortic orifice, will require a longer time for the ventricle to empty itself of its charge of blood into the aorta, and will therefore give rise to a more prolonged and considerable expansion of that vessel which will be indicated by the obliquity of the line of ascent, as shown in Fig. 5.

Fig. 5.

Dicrotism is rarely present in this condition.

Aortic regurgitation from insufficiency of the semilunar valves is attended with feeble arterial tension; the pulse possesses the character of communicating a shock to the fingers. The charac-

teristic pulse-form attending this condition is shown in Fig. 6. The line of ascent is nearly or quite vertical and ample; the summit is reduced to an angle, and the *line of descent* is waved.

The combination of the two preceding conditions, obstruction and insufficiency, will be accompanied by a corresponding combination of their pulse-forms as seen in Fig. 7. The line of as-

Fig. 6.

Fig. 7.

cent presents the abrupt course and hooked termination of aortic insufficiency, while the very obtuse line of descent indicates prolonged aortic dilation.

The study of the pulse-form as modified by aneurism, is very interesting and exceedingly important to the surgeon, as the pulse-traces may often enable him to decide the diagnosis of a case in which, without the aid of the sphygmograph, all would be involved in the greatest obscurity and doubt. In the Lancet, Jan. 20, 1866, is recorded a case of aneurism of the subsclavian artery, which was made out with certainty by this instrument, when it was impossible to detect it in any other manner.

The pulse on the diseased side of any aneurismal patient, is found to beat feebly, which is due, according to Dr Marey, to the elasticity of the walls of the aneurism. The characteristic markings in such a case are shown in Figs. 8 and 9.

Fig. 8.
Sound Side.

Fig. 9.
Side of the Aneurism.

The last trace shows the modification of the pulse in form and force when examination is made upon the artery below the seat of the aneurism. The first and third elements of the pulse-troca run into each other in almost a straight line.

In aneurism of the aorta, the force of the pulse will be but slightly decreased, and the pulse-traces will not be so marked as in the preceding case. There will be, however, difference in the pulse-traces of the two radial arteries, either in dierotism or form. —*Medical and Surgical Reporter.*

How to Prevent Pitting of the Face by Small Pox in Persons unprotected by Vaccination.

After earnest consideration of the question as to the best means to be adopted to prevent pitting, after reviewing the different applications which have been recommended for that purpose, Dr. Black determined, from his knowledge of the influence of light on the growth and development of both plants and animals, and of the destructive action of oxygen on diseased tissues, to exclude both these agents from the face of a patient that came under his care a short time since. He, therefore, shut out the light from her apartment by additional blinds of a dark color to the windows, and he guarded the face from the action of oxygen by keeping it constantly covered with fresh hog's lard. So effectually was the daylight excluded that the light of a candle had to be employed when anything important was required to be done in the room. During this time ventilation was strictly attended to. The disease ran the ordinary course, and when desiccation which, was rapid, had been completed, he had the satisfaction of seeing that no pitting of the face had occurred.

In Dr. Black's second case, the eruption was confluent on the face, and semi-confluent on the body. The mucous membrane of the mouth and nostrils was similarly affected. From the first moment of the appearance of the eruption until desiccation was partly completed, the patient was kept in *perfect darkness* with the face constantly besmeared with lard. As soon as the pustules had acuminated, they did not, as usual burst; but they shrivelled as it were, at once into yellowish-brown scabs, which fell off in two or three days, leaving the face *without a single pit.* No secondary fever occurred.

Dr. Black's third case of unprotected small pox occurred in a female child of one of the families above named. She was six years old, of delicate constitution, weak and puny in development, and on her mother's side, hereditarily predisposed to pulmonary consumption. The attack was severe from the outset; the eruption confluent on the face and mucous surface of the mouth, and confluent to a great extent over the body. Dr. Black endeavored to impress on the minds of the parents the absolute necessity of keeping the patient in *perfect darkness*, and the face well smeared with lard. To these particulars they themselves attended; but not unfrequently a servant was placed for a time in charge of the sick-room, and whenever such was the case the blind of one of the windows, which was close to the bed of the patient, was invariably half drawn up, so that a certain quantity of light fell directly upon the patient. In vain did Dr. Black forbid this, for so surely as the maid took charge of the patient as certainly did she pull up the window-blind, probably more for her own convenience than the gratification of the child. The case progressed favorably; no secondary fever followed; convalescence was soon established; and after desiccation had been completed, there was

left on the face a *few shallow pits*, which could be seen only on close inspection.

Very shortly after the recovery of this case, a little brother, seven years old, sickened, passed through a very severe initiatory stage, and had a confluent eruption. He too, had not been vaccinated. Warned by the previous case, the room was in this instance kept perfectly dark, from the appearance of the eruption until desiccation had in a great measure been completed. Although the face was so covered by the eruption that a free space, however small could not be found; although the face and head were greatly swollen, and the eyes closed for several days; and notwithstanding that the mucous surface of the mouth, throat and nostrils suffered in like manner, yet in this, as in the second case, as soon as the pustules had acuminated, they shrivelled at once into scabs, which quickly fell off, and left the face *without a single pit*. In this case, too, no secondary fever occurred.

Before this boy had left his bed, a sister, four years old, and a brother, three years old, were attacked. They were also unprotected by vaccination. The symptoms in both were severe; but especially so in the boy, in whom the eruption was more confluent than in any case which Dr. Black has yet seen during the present epidemic. The face was one mass of eruption, and, in the vesicular state, so coherent were the vesicles on the sides of the nose, that they formed large blisters. Such, too, were the conditions of the soles of the feet, whilst the surface of the rest of the body was so occupied by the eruption that a free space could scarcely be found. The eruption of the face of the girl was semi-confluent, but distinct on the remainder of the body. Both patients occupied separate beds in the same room, which was kept perfectly dark during the necessary period. Lard was freely applied to the faces of both, but especially to that of the boy, who during the rising of the pock, frequently rubbed his face with his hands. Dr. Black was afraid that this interference would produce pitting; but such was not the case. Both patients made an uninterrupted recovery; there was no secondary fever, and not the slightest pitting of either countenance occurred.—*Lancet.*

Intermittent Pulse and Palpitation.

Dr. B. W. Richardson concludes an interesting lecture on this subject with the following practical precepts:

"There is, of course, no known specific for intermittent heart, but, whenever the symptom of intermittency is present, there are certain general lines of treatment which should always be enforced by the physician.

"1. In the case of young children, when the intermittency is clear, however infrequent it may be, the utmost care should be taken to avoid every source of mental excitement. A child so

circumstanced should, under no pretence and for no purpose, be oppressed with study. He should be subjected to no amusements which powerfully excite the mind; he should at no time be exhausted by physical fatigue; he should be well fed, warmly clothed from head to foot, and, above all things, should be allowed to have abundant sleep. Ten to twelve hour's sleep is not a whit too much. Moreover, such a child should never be put to sleep with stories which excite dreams or cause alarm.

"2. In adults equal care should be taken, and, above all things, attempts should be made to remove impressions derived from any untoward event. Change of scene in this way often proves of essential service, while a carefully regulated diet, abstinence from exhausting pleasures, and abstinence from exhausting labor, especially mental labor of one particular kind, should be encouraged. Good sleep is here again the most valuable of remedies. Eight hours of sleep out of the twenty-four are essential—nine are still better. Two special points of advice are of vast moment to such persons. It not unfrequently happens that, by accident or by direct information, they learn the fact that their pulse does intermit. Then they begin to feel their own pulse, and become charged with dread of sudden death. As the disorder is of itself cerebral, this watchfulness and fear increase the frequency of the intermittency. With these patients, a word from the physician, timely and firmly spoken, is often the best prescription. You assure them on your experience that their malady is not of necessity fatal; you command them not to inquire after the symptom, and if you can succeed in persuading them to your views, which you may honestly try to do with all your influence, you will effect the most marked improvement in their condition. Again, it sometimes happens that patients, conscious of the failure of the heart, resort to alcoholic stimulants as a means of relief. For a moment, by exalting the cerebral activity, they experience relief from the alcohol, but the depression that follows calls the more rapidly for a return to the supposed remedy, and a factitious benefit leads to a habit which excites structural changes, and of all things, hastens death.

"3. In case of sudden intermittency, with symptoms of cerebral congestion, depletive measures are sound. A purgative is essential, and blistering at the back of the neck is always useful. I have seen great advantage in these cases from abstraction of a moderate quantity of blood by the cupping glasses.

"4. In the extreme forms of cardiac intermittency, while all the general rules laid down in Nos. 1 and 2 hold good, it becomes often imperatively necessary to subdue cerebral excitement and to induce cerebral rest. For this latter purpose, opium is the sheet anchor. It must be given freely when it is given, and not too freely. Small and repeated doses of opium excite, depress, and give no rest. A full dose, equivalent to a grain or even two grains, on the contrary, produce no excitement, but gives sound

sleep, and that quietude of cerebral circulation which is essential to secure satisfactory relief. I have sometimes, where there was much depression, combined full doses of opium with full doses of quinia, and with marked benefit.

"5. Concerning old people who suffer from what may be called chronic intermittency without oppressing symptoms, no special rule requires to be laid down. They are themselves usually too tired of the excitements of life to care for them, and if they are not, then the observance of the general principles applicable to children and adults extends equally to them."—*Med. Times and Gazette, Jan.* 1868.—*Amer. Jour. of the Med. Sciences.*

The Activity of the Skin in the Absorption of Medicines: By Dr. Roussin.

While it is abundantly proved that many articles of the materia medica, united with fatty matters, applied to the skin with a proper amount of friction, are absorbed, experiments with similar articles in a state of solution give different results. According to Laures and others, a man may sit for hours in a bath containing 200 or 300 grammes of iodide of potassium without the urine showing the slightest trace of iodine; in the same way one may remain in a bath containing from 20 to 60 grammes of corrosive sublimate, without the slightest salivation being produced, while it would be occasioned by much smaller quantities rubbed into the skin. Finally, Magendie left a rather concentrated solution of strychnia in contact with the skin without causing the slightest spasm.

The experiments of Dr. Roussin confirm what was previously known on the subject. He remained from an hour to an hour and a half in a bath, containing from 450 to 500 grammes of iodide of potassium; in no instance, when the body was dried, or the solution of the iodide washed off on coming out of the bath, could the slightest trace of iodine be discovered within twenty-four hours in the urine or the saliva. On the other hand, when, on leaving the bath, the solution adhering to the body was permitted to evaporate spontaneously, iodine showed itself soon after in the urine. In one of his experiments, the author wet his arms with solutions of the iodide, and then permitted the solution to evaporate spontaneously; four hours afterwards iodine was found both in the urine and saliva. The experiments show that the skin, being unbroken, iodide of potassium is absorbed only when it is left in substance in contact with the skin. This becomes still more evident from the following experiments: The author sprinkled the anterior part of his body, from the neck to the abdomen, with finely powdered iodide of potassium, rubbing it into the skin. The urine for the next twenty-four hours gave abundant evidence of iodine. The same evidence was given when the

experimenter wore a shirt which, with the exception of the bosom, had been wet with a solution of iodide of potassium (ten per cent. in strength), and then dried.

Many other substances behave in a manner similar to iodide of potassium, and in this way we can understand the numerous symptoms of poisoning which have been observed, when through the medium of the clothes, or in some similar manner, poisons come in immediate contact with the skin.

The cause of this passive relation of the skin to medicinal substances dissolved in water, with which it comes in contact, arises from the fact that it is not possible for the water to enter the pores on account of the fatty character of its surface. On the contrary, water is repelled rather than attracted, just as it is by capillary tubes with fatty walls.

Dr. R. shows that the skin is not in reality wet by watery solutions brought in contact with it; that is to say, the water does not extend in a continuous layer over it, but being repelled by the greasy surface, forms greasy drops upon it. Even soaping of the skin, the spreading out, the adhesion of the drops which fall upon it, is only apparent; the solution again gathers into drops as soon as the layer of soap, which permitted its adhesion to the skin, is removed. The same thing is observed when the skin is treated with ether. So soon as this is evaporated, the original relations between the skin and watery solutions placed upon it are renewed, because a constant secretion of fat takes place from it. On the other hand, when a piece of skin taken from the cadaver is soaped, after the removal of the layer of soap, water wets it, spreading itself out without being gathered into drops.

The absorption of fatty matters by the skin finds its natural explanation in the laws of capillarity; they can, rubbed into the skin, pass easily through the capillary vessels, and with them the substances with which they are incorporated, provided only they are minutely enough divided.

In like manner we can explain the absorption of solid matters, when placed upon the skin in a pulverulent form and here become mixed with its fatty secretion.

On the contrary, glycerine, which behaves towards the skin in a manner similar to water, is not to be used as a vehicle for substances which we desire to introduce into the economy through that organ.—*N. Y. Medical Journal.—Detroit Review of Medicine and Pharmacy.*

Diabetes Insipidus.

THE Times and Gazette of March 21st, in a letter from Vienna, reports the successful treatment of a case of this disease, under the care of Dr. Heine, of Heidelberg, by galvanic current.

On the Physiological Action and Therapeutical Use of Henbane, alone and in combination with Opium, and on the combined operation of Opium and Belladonna—Lecture delivered at the Royal College of Physicians, London.

The lecturer, Dr. John Harley, commenced by describing the effects of increasing doses of sulphate of hyoscyamia when used subcutaneously. The following may be taken as a summary: When given to an adult, and in doses insufficient to produce dryness of the mouth, the only effects are giddiness, somnolency and dilatation of the pupils, and a progressive retardation of the pulse to that condition in which it exists after a prolonged period of complete rest of mind and body, without diminution in its force and volume.

In doses sufficient to produce complete dryness of the tongue and hard and soft palates, there will generally be an acceleration of the pulse ten or twenty beats, with a slight increase in its volume and power. This acceleration will be observed from ten to twenty minutes after the injection. It does not usually continue for longer than twenty or thirty minutes, and rarely lasts for an hour; dryness of the mouth comes on about twenty minutes after the injection, and continues about an hour.

In most cases there will be great somnolency, attended with so much giddiness that the patient is either unable to walk without assistance or reels about as if drunk; the face becomes slightly flushed, and the conjunctivæ injected; the pupils dilate. After the lapse of about an hour the mouth suddenly moistens, and the pulse, which, from the time of its maximum acceleration, had been observed to fall some five or six beats every twenty or thirty minutes, now falls with unusual rapidity, until, at the end of two hours from the injection, it numbers only sixty, fifty or even forty-two beats, still, however, retaining its original volume and power; the giddiness and sleepiness slowly pass off, and at this time the pupils attain their maximum dilatation.

The effects are precisely the same when hyoscyamus, or its active principle, is given by the mouth. Compared with belladonna, hyoscyamus agrees with it in its effects upon the mouth and pupils. Its stimulant effect upon the sympathetic nervous system is only manifest in man in large doses, and even in this case it is comparatively transient and much less powerful than belladonna. The most prominent symptoms of the operation of hyoscyamus are excessive giddiness and somnolency, effects produced by atropia in only a very secondary degree. While atropia is chiefly distinguished by its effects upon the sympathetic nervous system, hyoscyamine is distinguished by its influence on the cerebrum.

It would appear that hyoscyamine with opium produces the most powerful hypnotic action possible. Each increases the effect of the other. Quantities of morphia and of hyoscyamine, which of themselves are insufficient to produce sleep, will, when combined, speedily induce that condition.

Like atropia, hyoscyamine is eliminated by the kidneys, and the lecturer stated that he had detected it in the urine twenty-two minutes after the subcutaneous injection of 1-15th of a grain of sulphate of hyoscyamine.

Treating of its therapeutical use, the lecturer stated that he had found it serviceable in certain cases of epilepsy and enuresis, and extremely valuable in irritable conditions of the brain and heart, and that it is especially useful in often determining and invariably increasing the hypnotic action of opium.

In treating of the combined action of belladonna and opium, the lecturer having previously determined the separate effects of atropia and morphia upon the horse, the dog and man, gave the results of their operation when simultaneously administered, or when the one remedy was allowed to precede the other by a variable time.

From numerous experiments upon the horse, which were made by Mr. Frederick Mavor, of Park street, and himself, he concluded that the reserve of any antagonism exists with respect to this animal; and he plainly proved by the experiments adduced, that the medicines not only intensify, but very much prolong, each other's effects.

The experiments upon the dog also led to the same positive conclusion. Some of them were peculiarly instructive. In one case, a quantity of atropine, which had been proved to be incapable of producing sound or continuous sleep, was given to the animal two hours after the administration of a subcutaneous dose of opium, and at a time when the dozy condition induced by the latter had passed off, the pulse being 78, respirations 18, pupils one-sixth contracting to one-seventh. Within five minutes of the injection of the atropine the animal was in a complete state of narcotism, and remained so without the slightest motion for the next four hours, and could not be aroused by pinching or pricking the skin, or by poking the finger down upon the glottis. The atropine effects, meantime, were extremely developed, and were much prolonged, and the dog continued to sleep soundly for three hours more.

In man, precisely the same results were observed in all the cases treated with opium and belladonna, either simultaneously administered, or when was given some time previous to the other.

The lecturer could come to no other conclusion than that, as far as a hypnotic influence was concerned, belladonna decidedly increased the effects of the opium, and, on the other hand, opium invariably intensified not one or two, but *all* the effects of belladonna.

One important fact, however, resulted from the numerous experiments which we had made upon the dog and upon man. In a large proportion of patients he found that the subcutaneous use of morphia was followed by faintness, nausea, increasing to vomiting and violent retching, with weak and often intermittent action of the heart, these distressing symptoms lasting for many

hours. When, however, a small quantity of atropine (the 1-96th of a grain) was administered with the morphia, these alarming effects never followed.

He explained this fact by attributing to the atropia such a powerful stimulation of the sympathetic nervous system as was able to overcome that derangement of the vagus nerve which opium so frequently produces. In other patients, in whom opium alone fails to produce sleep, the combination of opium and belladonna, whether given by skin or by stomach, procured the desired result.—*Medical Times and Gazette.*

The Value of Ipecacuanha in the Treatment of Acute Dysentery: By JOEL C. HALL, of Vicksburg, Miss.

IT is important to state that diarrhœa—simple laxity of the bowels, or complicated with other morbid conditions of the intestinal tract—was aggravated by the use of ipecac. When there is reason to suspect extensive ulceration of the intestine, this drug should not be given. Such cases grow worse under its use. It is only applicable to the acute variety of the disease, and here it often cuts short its progress, or very much abridges the duration of the distressing symptoms incident to it.

Treatment. Half an hour before giving the ipecac.—℞. tinct. opii. gtt. xxx, aquæ f 3ij, M. was given. Water and other drinks were strictly prohibited. At the expiration of the half hour, ℞. ipecac. pulv., 3ss. ft. pil. no. vj. was given at a dose; and fluids forbidden for two or three hours afterwards. Nausea and vomiting rarely followed. Amelioration of the symptoms ensued in from three to nine hours, and the patients entered at once upon convalescence.

When the patients were unable to swallow the pills, as in the case of children, a little syrup of orange peel effectually covered the taste of the medicine.

Injections of a strong decoction of green tea frequently quiet the lower bowel, and constitute a good adjunct to the treatment. *Medical and Surgical Reporter.*

Aphasia with Hemiplegia of the Left Side.—London Hospital—Under the care of Mr. HUGHLINGS JACKSON.

ALTHOUGH cases of aphasia, or, as Dr. Hughlings Jackson would say, "defect of intellectual expression," with left hemiplegia have been recorded—Dr. Jackson has related three cases in the London Hospital Reports, vol. i, 1864—they are certainly rare. There is now, however, a man in the London Hospital a man who is paralysed on the left side (he has never been paralysed on the right) who can usually only say "yes" and "no," and the phrase, "Come on to me," or part of this phrase. He, however, sometimes gets out other ejaculatory sentences. He cannot now

write, and cannot point out letters. His general health seems to be excellent. We make a note of this case, as it has been supposed by some that exceptional cases are not put on record. In the same ward in which the patient lies are two cases according to rule.—*Lancet.*

Paralysis of Soft Palate from Bromide of Potassium.

In a discussion on the employment of bromide of potassium in epilepsy, in the Society of Practical Medicine at Paris, reported in l'Union Médicale, M. Mesnet referred to this symptom as an evidence that saturation of the system by the drug has been reached. He commences by giving from twenty to forty grs. during the day, increasing the dose. He says, "we soon obtain certain effects, which indicate that we must not push it further. The mucous membrane of the pharynx and of the veil of the palate becomes insensible. The finger passed over these parts excites no muscular contraction. There is no effort at vomiting or sneezing, and no lachrymation. The drug then ought to exercise its curative action." He also gives a case in which this paralysis was produced after gradual increase of the dose to 130 grs. per diem.

As this statement seems to have excited no comment from the other gentlemen who took part in the discussion, it would appear as if the symptom was not new to them. Certainly this salt has been given, not infrequently, in still larges doses in this country, and we do not remember ever to have seen any such result of its administration reported.—*Boston Med. and Surg. Jour.*

Temporary Blindness in Scarlatina and Typhus.

Dr. Ebert related to the Berlin Medical Society a case of typhus and three cases of nephritic scarlatina, in which complete blindness suddenly occurred, vision being completely restored in a day or two. He believes it to be dependent upon temporary interstitial œdema of the intra-cranial portion of the nerve, consequent upon impoverished condition of the blood. The conclusions he comes to are :—1. There are cases of acute disease accompanied by blood poisoning and blood impoverishment, in which the sense of sight is temporarily abolished. 2. The blindness lasts from twenty to sixty hours, and appears never to exceed three days. 3. These cases admit of a very favorable prognosis. 4. When the ophthalmoscope shows the retina to be intact, we may promise with confidence that the blindnes will cease in two or three days.

Professor von Græfe observed that the true ground of so favorable a prognosis in these cases is to be found in the fact that, in spite of the absolute blindness, the pupil still continues sensible to the action of light. The negative ophthalmoscopic appearances alone do not suffice, for weeks may elapse without any change being apparent in cases which eventually exhibit plainly atrophy of the papilla.—*Med. Times and Gazette.*

QUARTERLY RECORD OF OBSETRICAL SCIENCE.

COLLATED BY JOSEPH HOLT, M. D.

A Contribution to the Treatment of Retroversion of the Uterus: By EPHRAIM CUTTER, M. D., Boston.

FOR a period of more than two years, a case of retroversion of the uterus annoyed me exceedingly. The patient was a married lady, about forty years of age, native of Maine, mother of seven children, and occupying a position in the middle class of society. She complained of disturbance of the nervous system—sometimes approaching insanity. There were great prostration, irritability and uneasiness; at times numbness of the extremities and limbs; bearing-down pains in the back; dysmenorrhœa; inability to walk, to lift weights, and to go up stairs without increasing the difficulty.

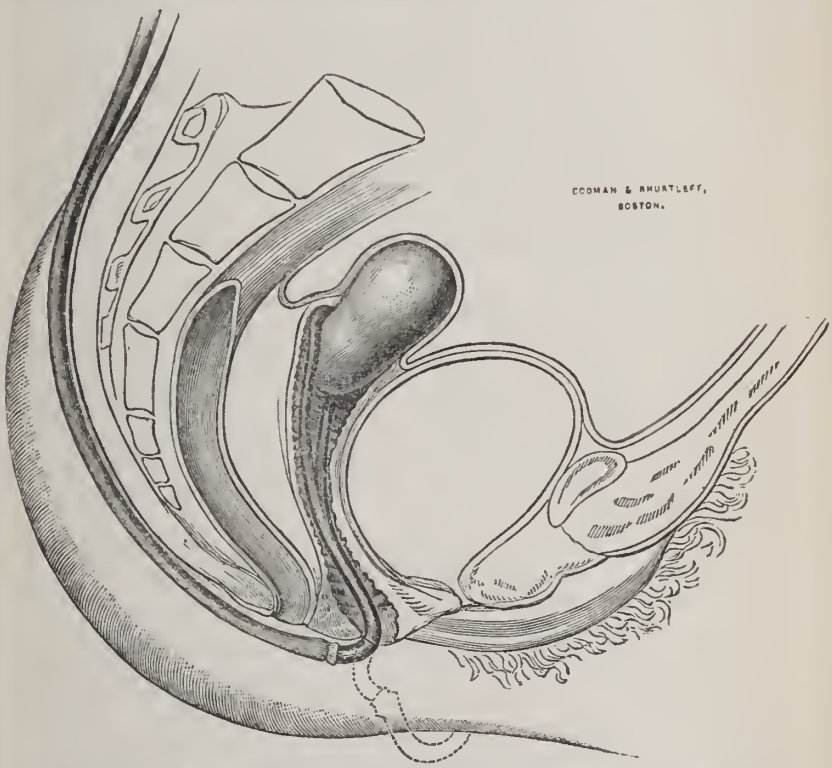
A physical examination, after much urging and delay, showed the uterus to be completely retroverted. A Simpson's sound could be introduced into the womb completely only when its concavity looked backward and the handle was brought forward towards the pubis. The length of the uterus was normal. The os was rather rugose and patulous. There was no flexion. The treatment consisted in replacing the womb with the sound, and in endeavoring to keep it *in situ* by pessaries of various shapes and materials, which were changed as often as they failed. When I had exhausted all the resources that I was acquainted with, and when the patient was just on the point of giving up all treatment in sorrow and despair, a contrivance was hit upon which is here exhibited, and which has kept the uterus in place ever since, with exceptions which will be mentioned. The success in this and other cases induces the writer to bring the instrument forward to notice, in the hope that it may prove as efficient in other hands.

The principle of pessaries in uterine displacements has long been announced (Anatomical plates by Jones, Quain, and E. J. Wilson, edited by J. Pancoast, Philadelphia, 1843, Part, The Viscera, p. 55, note) to be an extension of the vagina in its long axis, by restoring the tone and tension of the tube transversely, to prevent the uterus from falling down. It is not part of the principle to distend the vagina transversely, as is done by most internal pessaries. This distension rather weakens the tone of the vagina, by putting it constantly on the stretch. Indeed, in the case of retroversion quoted, the indications of treatment were—

1st. To replace the womb by the sound. This was done by putting the patient on her hands and knees, the head depressed and the hips elevated; then, introducing the sound, concavity backward, to move the handle backward, at the same time rotating it upon its long axis until the concavity looked forward, and the

longitudinal axis of the sound corresponded with that of the vagina.

2d. To keep the uterus in situ naturali by introducing the pessary shown in Fig 1, which, by its peculiar form, extends the vagina in the direction of its transverse axis, and also without resting upon any point within the vagina, but upon an elastic support, thus imitating the natural guys of the uterus.



Section of the female pelvis. Beginning on the right hand, we have the mons veneris, the os pubis, the urinary bladder, the uterus (side view), the vagina contracted about the pessary, the rectum, the sacrum, the natal furrow, the suspensory tubing, the right buttock.

The pessary is seen behind the neck of the womb, in the posterior vaginal cul de sac. It extends in the direction of the longitudinal axis of the vagina. At the posterior fourchette it takes a short turn backward, and is attached to india-rubber tubing which lies in the natal furrow, and is fastened to the pelvic belt, which is not represented in the cut. At the posterior fourchette is seen a joint, and the dotted lines represent the hamular process and the tubing turned forward on the joint, to escape the anus during defecation.

This pessary is made of hard rubber, curved antero-posteriorly, to correspond with the curved axis of the vagina. The uterine extremity is a loop, bent backward just enough to receive the convexity of the posterior surface of the neck of the womb, and accurately fit the posterior vaginal cul-de-sac. Towards the other end of the pessary the sides of the loop become fused into one

piece, which extends out of the vulva and bends directly backwards into a hook, thus embracing the posterior fourchette and the perinæum. To the free extremity of the hook is attached a piece of india-rubber tubing, about six inches in length and one-quarter of an inch in diameter. This tubing lies in the furrow between the buttocks, and is provided at its free extremity with a loop, to which is attached either a tape or band, which surrounds the pelvis of the patient and completes the apparatus. The features peculiar to myself are:

The single posterior support of an elastic india-rubber tube, the hooked termination, and the full antero-postero curve.

The remaining features of this pessary have been made known to the profession by Professor Storer, Jr., introduced by him from London. This pessary is supported by two parallel bands extending from the pubis in front to the sacrum behind. Thus this pessary has two points of support. My modification consists essentially in reducing the points of support to *one* only, and that *from behind solely.*

The advantage of the modification will be apparent when it is considered that the apparatus is simple, and that, when once introduced and properly fitted, it cannot easily become deranged. The furrow between the buttocks prevents the lateral motion of the tube of support. The attachment to the pelvic band prevents all downward displacement, except that which is immediately restored by the contractility of the suspending medium. The only point of pressure contact within the vagina being at the posterior vaginal cul-de-sac, the concave surface of the smooth hamular process fits the perinæum without chafing, and the hook simply lies in the vaginal orifice. If it presses upon the posterior fourchette so as to imbed itself, the instrument is not a fit, and the suspending cord should be loosed or a new instrument procured. If it impinges too forcibly upon the urethra, the cord should be tightened. When properly adjusted, the pessary cannot tip backward, as it will come in contact with the promontory of the sacrum. It cannot go forwards, as it is held by the uterus. Indeed, without being rigid and vice-like, its holds the vagina in its natural axis and curve, and (another most important feature) allows of the normal contraction of the transverse fibres of the vagina. The single attachment of the support behind enable the patient to micturite without disturbing the apparatus, which cannot be done with the double attachment. When it is remembered that frequent micturition is an almost constant accompaniment of uterine disease, performed very much oftener than the function of defæcation, this posterior suspension acquires an increased importance.

Furthermore, the point of suspension is on a good foundation. The posterior surface of the pelvis, made of bone superficially covered with integument, is smooth and fixed. It is not like the anterior surface of the changeable surface of the anterior portion of the abdominal trunk, which is made up mainly of soft tissues

on a base of yielding intestines that have a peristaltic motion, besides a continual change of contents in character, quantity and quality. Whenever the supporter does move, it is downward, away from the perinæum.

During defecation, the pelvic tape is untied, the india-rubber tubing is brought forward between the thighs in front, and the pessary also is brought forward so as to clear the anus, and is held by the hand. It should be held firmly, as the bearing-down efforts sometimes tip the uterus over again, as was done twice in the case related—only twice in eight weeks.

Since the above was written, influenced by the fact of displacement occurring occasionally during defecation, and also by the opinion of a distinguished specialist that this disadvantage operated against the perfect working of the instrument, I contrived a joint in the hook, in such a manner as to allow the extremity to rotate in a circle, the circumference of which is described by the end of the hook, and the centre of which is the axis of the middle of the hook. The joint is so compact as to present no re-entering angle into which the tissues may be buried or caught, and yet at the same time admits of an easy movement. The *modus operandi* of this joint is simply this: The pelvic band may be loosed, not withdrawn. The hook, with the attached rubber tube, is drawn forward either half or a quarter of a circle, and held there until the act of defecation is accomplished. It will be seen (fig. 1, dotted lines) that when the hook is turned forward the length of the pessary is increased by the length of the rotating portion of the hook. The centre of the joint being at the posterior fourchette, the extremity will come in the neighborhood of the pubis, and will be far enough removed from the anus to be out of the way; at the same time it affords a handle which may be easily held.

This joint modification has worked very well practically. Indeed, in the case adduced, the uterus has kept its place since the modified instrument has been employed. At the suggestion of another medical friend (*ut supra*), I have also adopted, in place of the pelvic tape, a broad band of webbing, fastened with a buckle in front. This completes the instrument, and also is preferred by patients. There are three sizes of instruments—4½ inches, 5 inches and 6 inches in length, the curves and length being graduated to different-sized and shaped vaginæ.

The period of time they can be worn is a matter to be decided by experience. The present patient has worn them for more than nine months. The effect of the instruments has been to restore normal nerve-sensations, to give vigor and strength, so that the patient can engage in heavy housework, and maintain her position as the mother of the family. She refuses to go without the pessary. I have encouraged her in this idea, as the long time in which the uterus had lain retroverted seemed to have essentially impaired the tonicity of the transverse vaginal fibres.

A second case in which this pessary was used was a bed-ridden one, in which the retroversion had probably existed for fifteen years continuously, inducing nervous symptoms of a peculiar character, especially an inability to hold the head upright when sitting or standing, and an exceedingly irritable condition of the sympathetic nervous system. During the treatment, an obovoid body, of a dirty-green hue, made up of concentric laminæ of a somewhat tough consistence, about an inch and a half in length and half an inch in width, was discharged from the uterus. Since the pessary described has been used, and *during* its use, the retroverted organ has been easily and perfectly maintained in its natural position. The replacement, however, did not relieve the patient, and the case still remains an *opprobrium medicorum*.

Case 3. Mrs. T. M., born in Ireland, 20 years of age, nervous temperament, with no previous births or miscarriages, was delivered, April 29th, 1867, of a female child, well formed, and weighing seven pounds. The waters were broken artificially, and there was some dilatation of the os uteri. The child subsequently sickened, and died, at the age of two months, of eczematous eruption which covered the whole body, and which was suspected to be specific. During the fall months of the present year, my attention was called to Mrs. M. She was complaining of symptoms that I thought justified a diagnosis of mild typhoid fever. She was treated accordingly, without being confined to her bed, and she afterwards resumed full duties in keeping her house. One day, while at work, she felt a pain in her back, and fell insensible. It appeared that the time had come for a full and complete examination into the case. It was found impossible to introduce the uterine sound any other way than with the convexity backward. The length of the uterine cavity was normal. The uterus was felt between the sound and the finger. The patient was put on her hands and knees, hips up, and the uterus replaced by means of the sound. A pessary of the smallest size was then introduced, the distal-looped extremity put into the posterior vaginal cul-de-sac, the pelvic band secured, and the patient resumed the vertical position. About three weeks afterwards (the patient being kept under notice, and the uterus examined at intervals of three or four days with the sound, so as to be sure of its being in place), the family moved to another residence, the patient doing the cleaning-up work and a good deal of the lifting. On visiting her in her new home, I found the pessary had come out from the vagina, although the pelvic band had not been removed, but had become loosed. Her version of the affair was a humorous one. She stated that the premises were infested with rats, and that they invaded the bed-room during the night, and frightened her exceedingly. On awaking in the morning, she felt a cold touch on her person. Supposing it to be one of the vermin in the bed, she made those motions and demonstrations which would be natural to a female under similar circumstances, and discovered the object of her terror to be—her pessary! When I

came in, she was on her knees, scrubbing a very dirty floor, the legacy of a former tenant, and after her recital, although she said she had not felt so well for a long time, I supposed of course that the uterus was misplaced again by her unusual exertions. The sound, however, showed it to be *in situ naturali*, and the case was left without the supporter—to be watched.

In this instance, the short duration of the displacement had not destroyed the vaginal tonicity, and the successful employment of the instrument seems to indicate that if these retroversions are detected early and the supporter timely used, the results of this method of treatment may be as satisfactory as other methods have hitherto been unsatisfactory.

Case 4. Mrs. B., native of New England, bilious temperament, married lady, 28 years of age; mother of one child, seven years of ago. Mostly engaged in household work. Since her child was born, if not before, she has been troubled with nervous symptoms, with numbness of limbs, headache, frequent micturition, bearing-down pains in back, peculiar feelings in the abdomen, especially when pressed upon, inability to endure fatigue or prolonged exertions, pastimes becoming burdens, etc. On examination, the lateral diameter of the vagina was found greater than the longitudinal. The finger came directly in contact with the posterior surface of the uterus. It could be passed behind the fundus. There was no posterior vaginal cul-de-sac. The same features were presented by a rectal examination. While endeavoring to pass in the sound, the uterus would rise in the pelvic cavity, preserving the horizontality of the longitudinal axis, and the vagina would become enormously distended into a cavity in which the finger could move without obstruction—the walls being smooth and tense, as if stretched out like a tent. This occurred especially when the patient was put upon her hands and knees. The uterus would be so lifted out of reach as to oblige the patient to lie upon the side again before the sound could be introduced. The uterine cavity was three inches in length; the sound moved freely within it. The os was congested. The uterus being replaced by the sound, and the sound withdrawn before the supporter could be put in place, the uterus would slip back. By retaining the sound within the uterus, and passing in the pessary by its side, I was enabled to introduce the instrument properly. On subsequent visits, the pessary was found to be well borne, and the patient was feeling better. Still, it was mortifying to find the uterus balanced by its middle over the end of the pessary, as it were, like a saddle over a horse's back. There being absolutely no posterior vaginal cul-de-sac as ordinarily found here, it is a case which does not present the feature which is indispensable to the instrument. However, to meet the indications in this, I contrived an intra-uterine pessary, which has the same principle of external support as the one just described. This is represented in Fig. 2. Except during a menstrual period, this has been well borne. It is to be distinctly understood, however, that the pes-

sary here brought forward is introduced for no other displacement than retroversion. I have but little experience in its use in other displacements, and do not particularly recommend it for them. However, in Fig. 3 is represented a pessary for prolapsus, which embraces the principles of the retroversion pessary modified.

Fig. 2.

Intra-uterine pessary on a posterior elastic external suspension.

The pelvic band, the india-rubber tube, the jointed hook are the same, but the ring and the single columnar support constitute the modifications. It is not recommended, but suggested, as I have not had a suitable opportunity for its trial.

Both these pessaries can be obtained of Codman & Shurtleff, 13 and 15 Tremont street, Boston. They are made under the supervision of the writer, and are reliable in workmanship and material.

Fig. 2.

In conclusion, the writer admits that *all* pessaries are an evil; but how can mechanical supports be dispenced with in relieving such a purely mechanical displacement as retroversion of the womb.—*Boston Med. and Sur. Journal.*

A few thoughts Respecting the Treatment of the After-birth: By W. Canniff, M. D., M. R. C. S., England.

The function of the placenta is well understood. It is at once a bond of union between the new being within the womb, and the mother; and the organ by which the offspring's blood is aerated and its growth and development sustained. The hour of utero-gestation, at which the placenta begins its duty, may be doubtful; but the moment when it ceases its work is sufficiently certain.

The onset of parturition at once affects the placental circulation; for, as each pain comes and the uterus contracts, there must be a correlative arrest of the flow of blood into the maternal portion of the placenta. The only effect upon the child is such as may be experienced by holding the breath for a certain length of time. As the passage of the child by the natural way into the world progresses, the effect upon the child must be correspondingly increased; not only because of the increasingly intensified and prolonged bearing down pains, but the necessarily increased contraction of the womb as its contents are expelled, and a diminution of the cavity takes place. At last, when the expulsive power overcomes all obstacles, and the head of the child or any portion of equal dimension is born, there must attend more or less displacement of the placenta in its attachment to the uterine walls.

The placenta cannot contract, while the uterus in the whole of its extent does, and this, it is submitted, necessitates a partial or complete separation at this time of the placental organ. The child during this last pain, has been, as during the previous ones, deprived of the vivifying influence of the maternal blood; but does it now, after this pain, by which the head is born, is over, recover the vital stimulus? If the placenta remains attached it might, indeed it would. But what says experience? The writer speaks only for himself. He has noticed invariably that the child,—shortly after the head is born, when there should be, if the placenta remained attached, a return of maternal blood—makes an effort to breathe; there is a gasping. As the chest is confined within the pelvic cavity, the lungs cannot expand; if a long period elapses before another pain completes the birth, the child becomes asphyxiated, and may even die, at least render artificial respiration necessary to bring on the natural. So far, it is supposed, all has been done by the normal powers of nature, although if interference or assistance has been necessary, the subsequent steps will be the same.

When the child is completely expelled, it is submitted that the final expulsive effort of the uterus has entirely detached the placenta, unless there should be abnormal adhesions, and even then it is not of sufficient extent to allow a maternal flow of blood for the child. In other words, it seems most likely that when the head is born there is such a separation of the placenta from the uterus, that the child no longer can derive sustenance from that source, and consequently seeks it in another way, as is evidenced by its gasping; and that when the child is entirely born, there is undoubtedly a complete severance, unless there be abnormal attachment, which will require unusual interference to overcome, yet which cannot afford a channel by which the mother can continue to maintain life in the offspring. The child is born, and henceforth must seek the breath and food of life in another way—through other channels. Such being the case, we can see the utter futility of the accoucheur waiting a moment before severing the funis. The mistake of feeling the cord, to see if there be fœtal circulation, is palpable, for although blood may be felt passing from the child to the placenta, it does not from that action receive any benefit—acquire any change. It is obvious then, that the cord may be divided without delay, and moreover, when the child is asphyxiated, the sooner this is done the better—the greater the chance of resuscitating the child by artificial respiration. The proper course is, not to wait until the child breathes, but to hasten the application of the ligature and division of the funis, that the child may be placed in the most favorable position and circumstances to produce animation.

The child is separated from the placenta and is properly breathing, what remains to be done? Will the medical attendant apply a bandage and wait for a pain to expel the placenta, be the time long or short? Why should he wait? For five years the

writer had been accustomed not to wait, but to proceed to asist nature in its removal, in the following manner: The time occupied in tying the cord and disposing of the child is generally about the same period as the intervals between the previous pains, and nature is found quite prepared to obey the solicitations of the attendant and expel the after-birth, which in the majority of cases lies within the vagina. Taking hold of the funis with the right hand, the left is placed over the fundus of the uterus, and through the abdominal walls gentle manipulation is made, at the same time a moderate degree of traction is used in the proper direction upon the cord. According to my own experience, the uterus responds to this action, and the placenta comes away; and when such is not the case, it is found that some unnatural adhesions retain it. In all cases where the placenta does not come, I unhesitatingly introduce the hand and remove it. The dilated state of the parts, and the prepared condition of the hand are most favorable for this procedure. But, says one "meddlesome midwifery is bad," and so it is, in so far as nature is thereby embarrassed or hindered. Is it, however, a meddlesome thing to tie the cord after the child is born? Certainly not, nor is it to remove the placenta, which now, a foreign body, only prevents the the comfortable settling of the mother, whose jaded frame and excited mind so much require the absolute rest which only comes when all is over. It must be borne in mind that in the great majority of cases the placenta comes away by gentle traction and abdominal manipulation, and when it does not, there exists abnormal adhesions, rendering the introduction of the hand necessary; for it is taken for granted that no one would think of administering ergot to produce pains to expel the after-birth. And if manual interference is necessary, there can be no doubt that the sooner it be made the better. The argument that may be advanced, that it is better to wait until the woman can rest before disturbing her, it is ventured, is unsound. After great agony attending the birth of the child, the removal of the afterbirth is but a small thing, unless some time has elapsed so that the stretched and benumbed parts have had time to recover their sensibility.

And still more, the opinion is advanced, that this procedure secures a more thorough contraction of the uterus, so as to prevent *post-mortem* hæmorrhage, and also to prevent the formation of numerous clots, the expulsion of which causes the distressing after-pains.

Reference has not been made to the use of chloroform. It is the writer's custom to always carry with him chloroform when called to attend a case of midwifery, to be given if desired by the patient, and the number desirous of having it is steadily increasing, notwithstanding the influence used against it by a few old practitioners, whose prejudice or something else will not permit them to countenance its use. Of course the amount of chloroform taken is never sufficient to keep the patient insensible, but

to limit the severity of the pain, to take away the acuteness of the sting. Generally, when the last pain comes, a larger quantity is allowed; and at this period the patient is generally clamorous for more; so when the child has been given to the nurse or placed at the foot of the bed, the patient is still under the influence of the anæsthetic agent. And so the steps above recommended, may all be taken ere the mother regain her senses, to know in joy, that her child is born.

Belleville, Ontario, Canada, February, 1868.—*Canada Medical Journal.*

Transfusion in Puerperal Convulsions.

FROM a letter published in the Medical Times and Gazette of March 21st, 1868, we clip the following extract:

"In Heidelberg, I saw a woman who had been instantaneously cured of puerperal convulsions by Prof. Lange, by venesection to 10 oz., followed immediately by the transfusion of 10 oz. of healthy blood. * * * The convulsions commenced during labor, but persisted after delivery, and, indeed, continued so violent that Dr. L. thought that the patient would die in a fit. It was six hours after delivery that the above treatment was resorted to. The urine was intensely albuminous at the time. When I saw the woman three weeks after delivery, the albumen had entirely disappeared."

The case, from the report, seems to have entirely recovered.

Placenta Prævia.

[FROM the American Journal of Obstetrics, etc., for May, 1868, we excerpt the prefatory remarks of Dr. T. G. Thomas, in the history of eight cases of placenta prævia.]

No variety of normal labor requires at the hands of the obstetrician more careful consideration, mature judgment, and prompt action, than that which is complicated by unavoidable hæmorrhage. The placenta being attached so near the os internum that the dilatation of this part necessarily involves its detachment, the very process by which the mother gives birth to her child, tends to destroy not only its, but her own life. Fortunately, placenta prævia is not of common occurrence. Many a practitioner will pursue his vocation for years without meeting with a case. Yet so serious are its results that although it occurs not oftener than once in five hundred cases, which is the proportion computed as correct by some authors, it exerts a marked influence upon the statistics of obstetrics. According to the calculation of Sir James Simpson, based upon the analysis of 399 cases, one-third of the mothers and over one-half of the children are supposed to have been lost. The reasons for this great mortality are probably the following:

1st. The dilation of the cervix for the passage of the child unavoidably exposes both mother and infant to great danger from placental detachment and hæmorrhage.

2d. Repeated hæmorrhages occurring during the ninth month, as the os internum dilates under the influence of painless uterine contractions, which then occur, the woman at the time of labor is usually exsanguinated, exhausted, and depressed both physically and mentally.

3d. Profuse flooding generally occurring with the commencement of labor, the medical attendant is often not at hand, and reaches his patient only after a serious loss of blood has occurred.

The dangers attendant upon the condition develop themselves most markedly in the first stage of labor, and death not infrequently occurs before the os externum is dilated to a size not greater than a Spanish dollar. At this time surgical interference, if resorted to to accomplish delivery, often destroys the lives which it is intended to save. The hand forced too soon through a rigid os will often rupture its walls, while a delay without the adoption of the means capable of controlling hæmorrhage will necessarily favor the occurrence of a fatal result.

On the other hand, should full dilation of the os have taken place, and the patient be exhausted from sanguineous loss, the practice of rapid artificial delivery will not rarely be followed by fatal prostration.

There is no question, in my mind, of the fact, that when it becomes the recognized practice to resort to premature delivery as a prophylactic measure in these cases, the statistics which have been quoted will be very much improved upon. By resorting to this measure we should be dealing with a woman who is not exhausted by repeated hæmorrhages; the obstetrician would be in attendance at the commencement of the labor; and he would be able by hydrostatic pressure to control flooding, while the same pressure accomplished rapidly and certainly the first stage of labor.

When this step has not been deemed advisable, or from any cause labor has absolutely set in complicated by unavoidable hæmorrhage, there are two plans by which we may endeavor to save the lives of the mother and child.

1st. We may alter the state of affairs at the cervix so that dilation may occur without hæmorrhage.

2d. We may hasten the delivery of the child so as to render a *gradual dilatation* of the cervix unnecessary.

The means at our command for accomplishing these indications may thus be tabulated and presented at a glance:

MEANS FOR PREVENTING HÆMORRHAGE WHILE THE OS DILATES.

1.—Distension of cervix by bags of water. 2.—Evacuation of liquor amnii. 3.—Partial detachment of placenta. 4.—Complete detachment of placenta. 5.—The tampon or colpeurynter.

MEANS FOR HASTENING DELIVERY OF CHILD.

1.—Ergot. 2.—Version. 3.—Forceps. 4.—Craniotomy.

Case of Adherent Placenta with Excessive Flooding, followed by Metritis and Pyæmia: Reported by EDWARD MONTGOMERY, of St. Louis.

In the latter part of October last I was sent for to attend Mrs. C., in confinement with her second child; I had attended her in her first accouchement, about two years before, at which time she had a very severe and tedious labor, with great rigidity of the parts: the patient was a strong muscular woman, and rather advanced in years. This time I found her very impatient and despondent, suffering very acutely with keen, lancinating pains, of short duration, but very frequent; the whole abdomen was very hard and tender, the skin hot and dry, and the pulse rapid. The os uteri was dilated to about the size of a dollar, the membranes slightly protruding, and the presentation natural. As the patient was very stout and plethoric, I took about fifteen ounces of blood from her arm, and prescribed a mixture of extract of belladonna, tartrate of antimony, and sulphate of magnesia. Hot hop fomentations were applied over the abdomen. These measures seemed to have happy effect; the tenderness and tension abated, the pains became less lancinating, the heat and dryness of the skin and also of the vagina moderated, and in about four hours my patient was delivered of a fine, large, healthy looking male child.

Immediately after the expulsion of the child a violent flooding occurred: I grasped the uterus through the abdominal walls, and had a large stream of cold water poured from a height over the exposed abdomen. I found the uterus very large, the placenta not yielding to moderate tension on the cord, and the hæmorrhage still profuse, and on introducing my hand into the uterine cavity, I found extensive adhesion of the placenta. I proceeded at once to peel it off as carefully and expeditiously as I could, and gave a large dose of ergot. The flooding moderated at once, but my patient was as pale as a corpse, and passed from one fainting fit into another for several hours, notwithstanding the frequent administration of laudanum and brandy, beef-tea, milk-punch, etc.

About eight hours after the birth of the child she was seized with a severe rigor. I was at once sent for, and on arriving found her extremely restless, haggard and despondent, with great thirst, a small rapid pulse and a continuous flow of bloody and serous fluid from the vagina. She complained of a deep-seated pain or soreness in the region of the womb, but there was no tenderness on pressing upon the abdomen; she also suffered from severe pain in the back, so that she could not remain in one posture five minutes at a time. I ordered an enema of laudanum and beef-tea, whenever there was great jactitation or restlessness from pain, and prescribed also a mixture containing bisulphite of soda and spirits of nitre, to be used as long as the hot febrile stage lasted. As soon as the sweating stage set in I omitted this mixture, and gave pills containing extract of canabis indica, sul-

phate of quinine, and citrate of iron, alternating these with the antiseptic febrifuge for six days. After that I continued the quinine and, with nutritious aliment, frequently injecting the vagina, and for the first three days the uterus itself, with weak solutions of chlorinated soda, permanganate of potash, etc. During all this time my patient seemed in a very hopeless condition, had severe rigors twice in twenty-four hours, with profuse sweats, intense thirst, sleeplessness, delirium, great jactitation, small, rapid, feeble pulse, and cadaverie appearance generally. From the fifth to the eleventh day of her illness there was also diarrhœa, tympanites, and dysuria; to relieve these, turpentine was administered internally and also applied externally over the abdomen; afterwards gallic acid was given, followed by aromatic sulphuric acid in conjunction with iron and quinine.

Notwithstanding the frequent use of disinfectant injections, the discharges *per vaginam* were very offensive: about the twelfth day abscesses were observed near the hip, knee, and ankle-joints, which when opened, gave issue to purulent matter of a most intensely sickening and fœtid odor. From the fifteenth day the patient began to manifest signs of improvement; the delirium gave place to quiet sleep, the profuse cold sweats abated, and in a month after her accouchement she was considered out of danger.

This case was one of extreme gravity, and seemed certainly most unpromising from the very commencement; the great tension and tenderness of the abdomen, the intolerable lancinating labor pains, the quick pulse, the hot and dry skin, and the great anxiety and restlessness even in the first hours of labor; the immense loss of blood at this time, followed by the long-continued putrid discharge, the hectic and toxæmic fever with its small, thready, rapid pulse, great prostration, insomnia and delirium, the diarrhœa, tympanites and dysuria, the long-continued cadaverie appearance of the patient, and lastly, the putrid metastatic abscesses, presented an aggregate of complications sufficient to appall and discourage even the bravest.

It may be a question still *sub judice*, how far therapeutic measures contributed to the happy result of the case, how far the ergot helped to control the hæmorrhage, and the sulphites exerted an antiseptic influence. As to the detergent action of the chlorinated soda and permanganate of potash there can be no question. Positive utility may doubtless be claimed also for the tonics, viz., iron and quinine, which were so freely employed, as also for the spirits of turpentine, and gallic and sulphuric acids, which were given for the tympanites and for the profuse sweats. *St. Louis Medical and Surgical Journal.*

MEDICAL CHEMISTRY, THERAPEUTICS, AND MEDICAL JURISPRUDENCE.

COLLATED BY WM. HUTSON FORD, M. D., PROF. MEDICAL CHEMISTRY, ETC., NEW ORLEANS SCHOOL OF MEDICINE.

Dr. Phipson on a New Mode of Preparing Biliverdin.

Dr. Phipson has read before the Chemical Society a valuable communication on this subject, from which we select the following remarks. The biliary concretion referred to was obtained from the liver of a pig, and was of unusual size, and had the following composition:

Water; cholesterin, with a small amount of grease; mucus; hypocholate of soda, with some hyocholic acid and some hypocholine; Cholepyrrhin (biliphein); carbonate of lime; phosphate of lime; soda; chloride of sodium; caprylic acid; matters not determined, and loss in analysis.

"This kind of biliary concretion is occasionally met with, I believe, in the liver of the ox, as well as in that of the pig. The yellow coloring matter, cholepyrrhin (or biliphein), which constitutes the principal portion of it, and the splendid green substance, biliverdin, which is obtained from it, are, without doubt, two of the most interesting organic compounds. The first is probably the same substance that exists in the bile, not only of man, but of all animals; and both present several points of resemblance with chlorophyll, or the green matter of leaves, and xanthrophyll, or the yellow substance which takes the place of green chlorophyll in autumn. It has been asserted that the vegetable substance, chlorophyll, exists in certain inferior animals, such as *Hydra viridis* and several *infusoria*. It has also been remarked that chlorophyll has many analogies with the coloring matter of the blood, and, on the other hand, that biliverdin resembles chlorophyll, not only in its properties, but also by its composition. These considerations have led me to endeavor to ascertain whether chlorophyll and biliverdin are really identical in composition, and whether it is chlorophyll or biliverdin which has been found in inferior animals alluded to. The results of this investigation I reserve for another paper. I will only state here that concretions, such as that which forms the subject of this paper, furnish us with a ready means of obtaining biliverdin in considerable quantities, and that the results of my examination of this substance, and of chlorophyll obtained from the ivy, lead me, so far, to the conclusion that biliverdin, differs from chlorophyll only by the elements of two equivalents of carbonic acid. In 1858 I observed (*Comptes Rendus de l'Acad. Paris*) that the yellow coloring matter of leaves in autumn changed to a bright emerald-green in concentrated sulphuric acid. The yellow coloring matter of the concretion here described behaves in the same manner, and biliverdin may be easily prepared from it as follows: The powder is di-

gested in concentrated sulphuric acid at the ordinary temperature until the whole has become a dark emerald-green. It is necessary to add the substance to the acid in small quantities at a time, to avoid a rise of temperature, and to stir the mixture constantly. In a short time the mucus and other matters are destroyed or dissolved, and a dark green fluid is obtained. This is thrown into a large quantity of cold water, when the biliverdin is precipitated. It must be washed by decantation several times, and not upon a paper filter, which it clogs in a little time more or less completely. The product is finally dissolved in alcohol, which leaves it quite pure on evaporation. If the quantity obtained is small, it is left as a hard green varnish, which will not allow water to permeate through it; it is quite devoid of crystallization. The biliverdin prepared by concentrated sulphuric acid, as already described, dissolves entirely in alcohol with a magnificent green color, which is very permanent. Even sulphurous acid and nascent hydrogen have no action upon it, after being left in contact with it for several hours, or even for days. On the contrary, the yellow substance from which it is drived has a great tendency to turn green, and is even affected by the action of light, which causes it to become much paler, and, in fact, after some time, nearly white. If biliverdin could be obtained in large quantities, it would be a most valuable tinctorial substance, equalled in brilliancy by no green color hitherto produced."—*Medical Times and Gazette.*

Bourne and Taylor's Glass Lactometer, or Milk Tester.

With the aid of this handy instrument, a sample of the mixture commonly sold as milk can be tested in a minute, and the relative proportions of the milk and the water present approximately determined. The indications of this lactometer are based on specific gravity; in fact, the instrument is simply a well-constructed hydrometer, adapted for liquids of specific gravity between that of pure water and that of pure milk, or 1·00 and about 1·35. A strong glass testing-jar is supplied with the lactometer, and the latter is packed in a suitable case. The method of using the instrument is thus described by the makers: "Fill the jar with the milk to be tried, allow it to cool to the temperature of 60° (or the ordinary temperature out of doors on a mild day), then immerse the lactometer, and notice the mark on the scale that is level with the surface of the milk, which will show the quality." The mark M indicates pure milk; the figures 3, 2 and 1 indicate respectively mixtures of three parts milk with one part water, half milk and half water, and one part milk with three parts water; while the mark W represents pure water. Chemists and druggists, by bringing this simple instrument under the notice of their customers, may materially influence the flow from the cow with the iron tail.—*Chemist and Druggist.*

The Preservation of Meat.

We have recently had the pleasure of conversing with Prof. John Gamgee, of the Albert Veterinary College, London, who visits this country for the purpose of introducing his method of preserving meat. It consists in making the animal respire carbonic oxide, and then bleeding it. The carcass is then treated with sulphurous acid and charcoal, in a close vessel, for some hours, and when taken out, can be kept in the open air for months —a discovery of immense importance in relation to the cheapening of meat.—*Ex.*

Disinfecting a Ship by Steam.

Heat, it is well known, is commonly employed for disinfecting articles that have been exposed to an atmosphere poisoned with contagious miasm, but we have never heard that it has been, before the instance related below, used to purify a ship that has become infested with yellow fever. Commander Chandler, of the U. S. steamer *Don*, on which ship the yellow fever was prevailing with great fatality, put into the port of Vera Cruz, where the sick were landed, and preparations for disinfection made by battening down and closely securing the berth-deck and ward-rooms. Hot steam was then turned into them until the thermometer, which was introduced through a small opening, indicated about 200 degrees of temperature. The hatches were then opened, decks dried down, and in two hours more there was no indication of the extreme heat to which those places had been exposed. No cases of fever occurred afterward. There had been twenty-three cases on board and seven men died. Commander Chandler inform the Department at Washington that he is persuaded that heat eradicated the disease as well as a severe frost could have done. The experiment is a most important one, as it can be resorted to in any climate, or even at sea.—*Druggists' Circular and Chemical Gazette.*

Another use for Bromide of Potassium : By D. W. Hodgkins, M. D., Waldoboro', Me.

Mrs. A. M., fifth pregnancy. Everything went on well until about the sixth month, when she began to have attacks of nausea and vomiting. These attacks increased rapidly in frequency until the nausea became constant. There was a loathing of all food, and if any was taken, it was soon rejected. This condition, after a short time, was accompanied with severe cramps in the limbs and bowels. All the ordinary means for relief were tried successively, but without avail. She became so reduced as to be unable to sit up but a small portion of the time, or to walk across

her room without assistance. In this condition the induction of premature labor seemed the only means to save her life. But before resorting to this I concluded to try the bromide of potassium, and accordingly ordered the following:—℞. Bromide potassium, ʒss.; aqua font., ʒiv. M. S. Desert spoonful ounce in two hours. At my next visit, I found all nausea gone. (She had taken the medicine three times in twelve hours.) It did not return again to the same extent, being easily checked by a dose of the medicine. From the taking of the first dose until the end of her term, she never vomited again, but was able to take even hearty food, and gained rapidly in strength. The cramps, which had caused so much suffering, ceased entirely, and she went to the full term without an unfavorable symptom. She was delivered of a fine, healthy boy, and both mother and child did well.—*Boston Medical and Surgical Journal.*

The Doses and Actions of Medicines—a paper read by Dr. FULLER, Harveian Society.

HE considered that the prevalent distrust in the efficacy of drugs might all be resolved into the three following formulæ: 1. The natural reaction from the overweening confidence in medicine, and from the wholesale and indiscriminate administration of drugs which prevailed at the beginning of the present century. 2. The discovery that certain disorders, if left to themselves, in many instances tend to recovery. 3. The prevalence of extreme ignorance as to the dose in which each drug is tolerated by the system, and as to the dose in which it must be administered in order to obtain its curative effect. After enlarging somewhat on these points, Mr. Fuller concluded an able paper by remarking that by one means or another distrust had come to prevail, and discredit had been thrown on the curative action of drugs. Disease was left to take its natural course, and homœopathy was practised under the guise of scientific medicine. The public, who see by the reports of cases in our periodical literature how little heed some men pay to medicine, were becoming indoctrinates with the belief that drugs are of no avail, and were consistently betaking themselves to the professed homœopath. For this belief Dr. Fuller maintained that there were absolutely no grounds, and urged the Society to appoint a committee for the purpose of investigating the subject of therapeutics and the action of medicines. If, he said, it should prove, on inquiry, that drugs are of no avail in modifying the course of diseases, let us, as honest men, avow our mistake, alter our practice, and admit that homœopaths have had just cause for their vilification of the legitimate practice of medicine; but if, on the contrary, the labors of the committee resulted in establishing the curative action of medicines, where properly administered in doses and in combinations suitable to the exigencies of each case, the profession might fairly hope to obtain as the result of the investigation some trustworthy therapeutical

data. The investigation must necessarily be coeval with the existence of the healing art; but the labors of the committee, if carefully conducted, would serve as a model to future inquirers; the conclusions at which they arrived would be a nucleus to which other facts might be added from time to time, until information was obtained in the healing art which would be indispensable to every practitioner; and meanwhile the Harveian Society would have the honor of inaugurating an inquiry which would not have been unworthy of the Royal College of Physicians. —*Lancet.*

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

COLLATED BY W. S. MITCHELL, M. D., PROFESSOR OF ANATOMY, OPHTHALMIC MEDICINE AND SURGERY, NEW ORLEANS SCHOOL OF MEDICINE.

Ulcerative Endocarditis, with Emboli in several Arteries. Reported by Dr. MOXON to Pathological Society of London.

THERE were shown parts of many organs from a case of great interest which came under post-mortem inspection the day before the meeting. During life the case passed for one of typhoid fever, and although the disease was of another nature, yet its symptoms were very deceptively like those of typhoid fever. The patient was a young man aged twenty-one. When he was admitted at Guy's Hospital, it was at first doubtful whether his case was to be received as rheumatic or as typhoid. He had pains in the limbs, but these were not localized, and he could move the limbs easily; his tongue was dry and brown; pulse 110 to 116; his temperature 104°; and his bowels loose, his stools being regarded as characteristic typhoid stools. He died on February 2d. On inspection, there were ecchymotic spots on the chest and abdomen. Further ecchymotic spots were found on the pleuræ, pericardium, larynx, stomach and intestines, and in the urinary bladder, giving the appearance associated with blood-poisoning; but the mesenteric glands were healthy, and the intestine, except for the spots, perfectly so likewise. The spleen was, however, large and soft, as in typhus; it weighed 18½ oz., but it had in it two large pale, wedge-shaped patches, of the kind called embolic patches. The aortic valves were much diseased; two of them were converted in appearance into heaps of rather loosely connected vegetations, and the common point of attachment of two of the segments was in an excavated state, as from ulceration. The excavated spot was in the concavity of the bend upwards that the mass must have made in the current during systole. The mitral valve had a similar localized patch of disease. The blood in the heart was liquid. The kidneys had numerous "embolic" patches in them, recent and semi-recent. The liver showed

externally no signs of them, but on opening up the right hepatic artery a plug was found in its second bifurcation, this plug being adherent. The brain externally showed no change, but on following the Sylvian arteries there were found two plugs of fibrin in the right Sylvian, and though nothing unusual was to be seen on superficial observation of the brain at that part, yet a stream of water immediately showed a decided softening there; the brain broke away at that part in a pulp, in a stream that had no effect on the rest of the organ. This case, Dr. Moxon said, bore best the interpretation that the blood had been poisoned by the products of the endocardial ulceration. The state of the spleen, of the blood, and of the serous membranes, and the comatose state of the patient, together favored that view.—*Lancet.*

On the Vaso-Motor Nerves of the Blood-Vessels of the Brain.

Dr. Nothnagel, for the purpose of investigating the origin of the vaso-motor nerves of the pia mater and brain, made numerous experiments upon live rabbits, by carefully exposing the cervical sympathetic nerve, and by removing a portion of the roof of the cranium on each side of the median line. The animals were not put under the influence of any anæsthetic or narcotizing agent. In the course of his investigations, Dr. Nothnagel found that the vessels of the pia mater dilated after simple section of the trunk of the cervical sympathetic, and frequently contracted after the excitation of the distal end of the divided nerve by electricity. The vessels of the pia mater also contracted after the application of electricity to the superior cervical ganglion; but were dilated after the removal of this ganglion. Irritation of the senses, after the division of both sympathetic nerves, or the removal of the superior ganglia on both sides, caused contraction of the vessels of the pia mater. To account for this last result, it is supposed that some of the vaso-motor filaments are supplied by the cranial nerves which anastomose with the carotid plexus in its course through the carotid canal; these nerves are, the motores oculorum, the trigeminal nerves, the abducent, the glosso-pharyngeal and the vagi. The following conclusions may be derived from the above experiments. 1, the vaso-motor nerve filaments of the pia mater come in part from the trunk of the cervical sympathetic; 2, some fibres take origin in the superior cervical ganglion; 3, others have their origin above the superior ganglion, most probably from some of the cranial nerves.—*Virchow's Archiv*, bd. 41, 1867.—*British Medical Journal.*

Irregularity of the Spermatic Vein: By Alex. Macalister, L. R. C. S., L. K. Q. C. P., Demonstrator of Anatomy Royal College of Surgeons, etc.

This vessel, it is well-known, usually opens on the left side into

the left renal vein, while on the right it joins the vena cava inferior directly. In a subject dissected, March, 1868, the right vein exhibited a singular arrangement. Passing upwards to the right side, it divided into two branches, opposite the upper border of the fourth lumbar vertebra. One of these, a larger trunk than the original spermatic, passed directly into the vena cava in the usual position, while the other ran upwards and joined the right renal about half an inch before that vessel opened into the ascending cava; it was singular in this specimen that the two branches derived from the spermatic, were either of them larger than the parent vessel. On laying them open the valvular arrangement was found to be as follows:—The valve of M'Donnell was small but distinct. Another valve existed in the spermatic vein at its point of division, but there was no sign of any fold in either of the branches, or at their openings.—*Medical Press and Circular.*

The Nasal Nerve.

I owe to my industrious pupil, Mr. Kelly, a note of the occurrence of a singular variety of arrangement, namely: the passage of the proper nasal twig of the ophthalmic branch of the fifth nerve, through the posterior ethmoidal foramen.—*Medical Press and Circular.*

One of the most singular varieties in the tendons of the fore-arm muscles occurred in a subject dissected during last month; in it the flexor pollicis longus supplied the index-finger and sent no slip to the thumb, while the long tendon, which should have come from the flexor pollicis, was traceable only as far as the annular ligament, to which it was inseparably connected; the flexor sublimis was normal, and the flexor profundus supplied only three fingers; the only other anomaly in this arm was a double extensor ossis metacarpi pollicis.—*Medical Press and Circular.*

REVIEW OF FRENCH MEDICAL LITERATURE,

BY DR. EDMOND SOUCHON, OF NEW ORLEANS, LA.

ANATOMY.

Structure and Physiology of the Retina.—In the Journal de l'Anatomie et de la Physiologie of Charles Robin, is an analysis of a paper of Prof. Max. Schultz, of Bonn, on the Structure and Physiology of the Retina. We transcribe here the main points and conclusions.

The cones are in communication with thick and compound nervous fibres, while the bacillar layers are connected with single and thin nervous fibres. There is a co-relation between the degree of aptitude to perceive colors and the number of the cones in a given space; the cones are more numerous at the fovea centralis; they are the organs of perception and of distinction of the different colors, whilst the bacillar layers only perceive light in general, *i. e.*, white light. Researches in comparative anatomy confirm these views.

As regards the intimate structure of the bacillar layers and of the cones, each of these elements is composed, 1st, of an *external portion*, consisting of a great number of thin laminæ, piled upon each other, and formed by a substance possessing a great power of refraction; 2d, an *internal portion*, which is a nerve continuation of the nervous elements. According to His, there can be found, in the retina, traces of lymphatic tracts around the vessels (perivascular), as is the case around the vessels of the brain.—*Journal de l'Anatomie et de la Physiologie, Normal et Pathologique, etc., par Charles Robin, No. 2, Mars et Avril*, 1868.

Anomaly of the Carotid Arteries.—Dr. J. Kasinki, of Varsovia, met with a very interesting anomaly of the branches arising from the arch of the aorta. Performing the operation of ligating the carotid on a soldier who had died at the hospital, he found, instead of one artery, two arterial branches almost of the same size, and resting one upon the other. The incision had been made upon the internal border of the sterno-mastoid muscle, and above the point where the carotid is crossed by the omo-hyoid The first impression was that the division took place lower than usual, but upon dissecting the parts, it was found that the two branches originated directly from the innominate artery. One of the branches represented the external and the other the internal carotid. This is therefore a case in which the internal and external carotids rise directly and separately from the innominate artery.—*Gazette Médicale de Paris, Feb. 1st*, 1868.

PHYSIOLOGY.

Stoppage of the Carotid Circulation during Efforts.—Dr. Felix Guyon has written a very interesting paper on the stoppage of the carotid artery during prolonged efforts. It rests upon the fact, that during violent, prolonged, and silent or mute efforts, the pulsation of the temporal artery is no more felt, whilst the radial pulse, though weaker, is still perceptible.

This is owing to the compression of the common carotid artery by the lobes of the thyroid body, by the following mechanism. One of the first results of the effort is to render immovable the hyolaryngeal apparatus, and therefore the thyroid body in front of the vertebral column; also the contraction of the muscles, and particularly those of the trunk and neck. The aponeurosis of the neck necessarily participates in the tension of the muscles. It

results from these dispositions that when, under the influence of an effort, the thyroid body swells by the afflux of the venous blood, it cannot expand freely, except posteriorly, that is, when the gland is in contact with the carotid. The vessel is then compressed upon the vertebral column, and the circulation stopped.

The reason of this disposition of nature, is to prevent the afflux of arterial blood to the brain at a moment when the venous blood is stagnant under the influence of the effort. It is a compensating action.

Dr. Matiolet, in his Memoir of the Vascular System of the Hippopotamus, shows a disposition special to that animal, and consisting in this: that the stylo-hyoid and gastric muscles, instead of leaving a free passage to the external carotid, are in immediate contact with it, and when they contract, compress the vessel and stop the blood that goes to the head. The purpose seems to be, undoubtedly, to prevent cephalic congestions during the long suspension of respiration when the animal is under water.—*Archives de Physiologie, Normal et Pathologique, No.* 1, *Jan. et Fev.*, 1868.

PATHOLOGY.

Inflammation of Basilar Artery.—Mr. George Hayem reports two very interesting cases of arteritis of the basilar artery, followed by rapid death, resulting in the obliteration of the vessel, caused mainly, if not solely, by the swelling of the parieties of the artery, and not from the coagulation of the blood in this cavity. In one of the cases death was so rapid that the nervous centres were free from all lesions; but in the second, the substance of the cerebrum was pale, and from the cut vessels oozed a thin and serous blood. The cerebellum was the softest part of the brains.

In connection with these cases, is noted the result of an experiment made by Dr. Vulpian, who injected tobacco seeds into the carotid of a dog; the animal died, and it was found that the basilar artery was obliterated by the seeds; there was also a softening of the left lobe of the posterior portion of the cerebellum. *Archives de Physiologie, Normale et Pathologique, etc., No.* 2, *Mars et Avril*, 1868.

PRACTICE OF MEDICINE.

On Tonility of Sounds upon Percussion in Diseases of the Chest.—Dr. Paul Niemeyer, of Magdebourg, insists very much upon the differences of tone (*tonilité*) of the sounds upon percussion in diseases of the chest. Dr. Woillz, of Paris, studied the tonility of sounds some two years ago, but Dr. Niemeyer pretends to have studied the phenomena more thoroughly. He lays down these principles—that the tonility of the sounds is modified on one hand according to the longitudinal diameter of the column of air; on the other hand, according to the transverse diameter of the opening. These principles are illustrated by percussing on the cheek whilst one closes, opens and extends the mouth with air, and

stretches out or draws in the lips, etc.; also, and better, by percussing over the opening of a glass cylinder upon a pleximeter, held within two to ten millimetres from the opening. By pouring water, more or less, into the vessel, the longitudinal diameter of cylinder is changed, and by closing the opening of the cylinder, more or less, with a flat piece of window glass, the diameter of the opening is also varied; and in both cases the tonility will be manifestly modified.

In applying this knowledge to the diseases of the lungs, we arrive at the following conclusions:

The diameter of the opening governs the character of the tonility in all cases where there is, either in the lung or in the pleura, a cavity communicating directly with the exterior, through a bronchus, especially; 1st, in the case of tuberculous caverns situated superficially, and opening into a bronchus of the first or second order; 2d, in the case of a pneumo-thorax, communicating with the exterior by a fistulous opening, or even through a perforated cavern. In both cases the change in the tonility will be evident when the patient will alternately open and close his mouth, provided he has fully expectorated previously. If there is no change in the tonility, it may be diagnosed that the cavity does not communicate with the exterior. *The longitudinal diameter of the column of air* governs the tonility in all cases of a pathological cavity without communication with the exterior, which can be diagnosed at once when the tonility remains the same, though the patient opens or closes his mouth. On the contrary, the above change will be observed when the patient will cause the level of the liquid contained in the cavity to vary, by *lying down and rising alternately.*

In cases of pneumo-thorax, this change of tonility of the metallic phenomena, according to the position of the patient, is one of the most striking and constant signs. The tonility is more acute in the horizontal position, and more grave in the vertical, which is accounted for, on one hand, by acoustic conditions of the cavity, and on the other, by the retraction of the diaphragm, which thus diminishes the longitudinal diameter of the column of air.

These variations of the tonility may also serve to estimate the quantity of gas in the cavity of the pneumo-thorax, and to recognize the divers compartments of the cavity, each of which having a peculiar tone.—*Gazette Médicale, Jan.*, 1868.

MATERIA MEDICA AND THERAPEUTICS.

Bichloride of Methylene.—MM. G. Tourdes and Happ, of Strasburg, France, have experimented with this new anæsthetic agent. The experiments are very thorough, and lead to the conclusion that the action and effects of this new agent are very much like those of chloroform. The differences are the following: The quantity necessary to produce anæsthesia is greater than that of

chloroform; the period of sleep for one inhalation is shorter than with chloroform; the return to the normal state is more rapid than when chloroform is used; it is more inflammable and more volatile than chloroform. It is, therefore, rather inferior to chloroform.—*Gazette Hebdomadaire de Médicine et Chirurgie, 28th Fevrier*, 1868, *No.* 9.

SURGICAL PATHOLOGY.

Boil followed by Phlebitis, Pyæmia and Death.—Mr. William Scholz reports a very interesting case in which death resulted from phlebitis and pyæmia, caused by a boil seated on the dorsal surface of the left foot. The patient died with the ordinary symptoms of pyæmia, and upon anatomical examination it was found that the veins around the boil were filled with pus. The lungs were also the seat of pyæmia infarctus.

There are numerous facts proving the gravity of the phlebitis complicating boils; but up to this time, in the cases related by Blachez, Dubreuil, Le Deuter, Fritz, Fouch and Harrison, the boils were seated on the face, and it might have been thought that the special disposition of the veins of the face, anastomosing with the ophthalmic, and through that vein with the cavernous and circular sinuses, was the cause of the fatal termination, which was readily explained. The facts reported by M. Scholz shows that the same accidents and complications may attend boils situated in a part rich in venous vessels.—*Gazette Hebdomadaire de Médicine et de Chirurgie, 28th Fevrier*, 1868.

Semi-liquid Fatty Tumor.—Mr. Charles Bailly describes a fatty tumor, the centre of which had softened and was semi-liquid, conditions which caused several surgeons to pronounce it a cold abscess. An explorative puncture gave no very great satisfaction. An operation having been resorted to, which was performed by Dr. Demarquay, the liquid which flowed out upon the incision of the tumor was carefully preserved; it was found to contain a sero-sanguinolent fluid, holding in suspension yellow particles of a fatty aspect. The chemical analysis made by M. Bayard confirmed the fatty nature of that liquid.—*Gazette des Hôpitaux, 12th Nov.*, 1867.

SURGICAL INSTRUMENTS AND APPLIANCES.

Instrument to Suck out Lithic Detritus after Operations of Lithotrity.—Dr. Nelaton has invented an instrument to suck out lithic detritus from the bladder after the operation of lithotrity.

It is composed, 1st, of a catheter, with flattened extremity in the shape of a spoon, having the opening on the concavity, so that the mucous membrane of the bladder cannot obliterate it by acting as a valve; 2d, of a pump; 3d, of a vessel placed between the catheter and the pump, and in which the solid particles fall, as they are sucked with the water through the sound, and cannot get out.

The main advantage of this instrument is to render unnecessary the frequent introduction of instruments into the bladder, and to extract portions of stone, in those patients affected with enlarged prostate or paralysis of the bladder.—*Evenement Medical. 1st Fevrier*, 1868.

Dilating Forceps to Operate in Phymosis.—Dr. Nelaton has also improved another instrument, which was invented by Dr. Thibard, for the operation of phymosis. He calls it—*Dilating forceps producing instantaneously the cure of congenital phymosis.* It resembles the forceps used to dilate the incision of the trachea in tracheotomy. It is composed of four branches, which having been introduced under the prepuce, come asunder by pressing upon the handles of the instrument. At the moment the surgeon experiences a sensation that resistance has been overcome, the skin is easily at once pushed behind the glans penis. Upon examination of the parts, it is found that the mucous membrane alone presents a few superficial rents; there is no bleeding. The after treatment consists in applying a thin layer of cold cream over the prepuce, which is brought back to its normal position. During the process of union the glans should be uncovered—*Journal de Médicine et de Chirurgie Pratiques, Avril*, 1868.

Elastic Bands to Produce Continuous Extension.—MM. Legros and T. Auger, of Paris, have experimented with and recommend the use of elastic bands or tubes to produce continuous extension in cases of fractured limbs or diseases of joints, etc. The great advantage is to counteract and finally overcome the muscular contractions, and prevent all shortening of any importance. It is said to be easier to the patient than the use of weights and pulleys or any other apparatus, and does not relax of itself or by the motions of the patient. A patient was treated by this system in Dr. Nelaton's ward for a fracture of the femur (middle portion), and there was a shortening of but one-sixth of an inch.

There is one point upon which the inventors insist very much, it is the small amount of trouble that is necessary.—*Journal de Médicin et de Chirurgie Pratiques, Ferrier*, 1868.

OBSTETRICS AND DISEASES OF WOMEN.

Polypus Uteri, followed by Rupture of the Uterus.—M. O. Larchen, reports a very unusual and important case of a polypus uteri, which was formed of two lobes developed, one in the cavity of the body of the uterus, and the other in the cavity of the neck. The growth of the tumor and the pressure it exercised on the uterine parietes, caused the softening, the thinning, and, finally, the rupture of the uterine parietes, at the union of the body with the neck. A violent inflammation of the peritoneum followed, at first localized to the pelvis, then generalized. Death was the result.

This case is only a part of a very interesting paper, published by M. Larchen in the Archives Generales de Medicin, and en-

titled, "Of spontaneous rupture of the uterus, and of other peculiarities in connexion with intra-uterine polypi."—*Union Médicale, 21st Nov.*, 1867.

MEDICAL NEWS AND MISCELANEOUS.

American Medical Association.

WE thought it would not be uninteresting to your readers, Mr. Editor, to give an outline of the proceedings of the Nineteenth Annual Session of the American Medical Association, which held its meeting in Carroll Hall, in the City of Washington, on the 5th day of May, 1868.

Doctor S. D. Gross, of Philadelphia, presided over the deliberations of the Association; and upon taking his seat, introduced to the meeting the Chairman of the Committee of Arrangements, Dr. Grafton Tyler, of Georgetown. The pleasant duty of welcoming the Association to the hospitality of the city was discharged by that gentleman in a graceful address, calculated to engender good feeling, and to assure the Association that its object in assembling annually, was to advance the interests of a profession which had for its chief care a science which was catholic and whose empire should be peace.

President Gross then delivered his inaugural address. "Returning his profound thanks for the distinguished honor conferred, he remarked that the most learned men of the profession of medicine in America had been called to occupy this chair, (and it may not be irrelevant, just here, to mention in regular order the names of the ex-Presidents of this Association. Nathaniel Chapman, of Philadelphia; A. A. Stevens, of New York; J. C. Warren, of Boston; R. D. Mussey, of Cincinnati; James Moultrie, of Charleston; R. R. Wellford, of Richmond; J. Knight, of New Haven; Usler Parsons, of Providence Rhode Island; Charles A. Pope, of St. Louis; George B. Wood, of Philadelphia; Lina Pitcher, of Detroit; Paul F. Eve, of Nashville; Henry Lindsey, of Washington D. C.; Hugh Miller, of Louisville Ky., Eli Ives, of New Haven; Wilson Jewell, of Philadelphia; Alden March, of Albany; N. S. Davis, of Chicago; D. H. Storer, of Boston; H. F. Askew, of Wilmington Del.; S. D. Gross, of Philadelphia.) Dr. Gross promised to discharge his duty as President of the Association impartially and to the best of his ability; spoke at length upon those points which, in his judgment, should demand the attention of the Association; referred in a very beautiful and chaste manner to the high position which American physicians had reached in the ranks of the profession throughout the medical world; demonstrated the great good that this Association had accomplished by its twenty-one annual meetings, and hoped

that these re-unions may prove a blessing, not only to humanity, but to each and every member of the profession of medicine.

The points brought out prominently before the Association in this address—were:—The reception of prize essays on medical subjects and the ordeal through which they should pass prior to a decision upon their merits. The rank of medical men in the Navy. and establishment of a naval medical school. The organization of veterinary colleges and hospitals. The publication of an annual medical register and the establishment of societies for the relief of widows and orphans of medical men. The duties of the Professors of Colleges. The management of Hospitals, Veterinary Colleges and Hospitals. The Doctor then demonstrated quite an extensive acquaintance with almost all the important works upon this much neglected subject in America. In this connection he paid quite a compliment to the work of Professor Gamgee of the Prince Albert Veterinary College, London, upon the "*Raindeer-pest.*" This gentleman being present was immediately invited to a seat upon the stage and interested the Association with an elaborated account of veterinary schools in England and France. Dr. Gross then spoke in eloquent and impressing language of the departed members of the Association, as well as those European luminaries who had faded away during the past year. He expressed himself as confident of the great success of the Association, and in alluding to the Southern members returning, gave it as his opinion that the most sanguine expectations of the Association would be now fully realized. He entreated the great fraternity to go on doing good as usual throughout the length and breadth of the land, and concluded by again returning thanks to the Association for the honor they had conferred upon him."

Those specially interested in these subjects will have an opportunity of reading this remarkable address when published in the regular proceedings.

The committee appointed last year were now called upon for their reports. It is useless for me to mention all of these committees and the subjects intrusted to their care. It is sufficient to say that they did not, each and every one, discharge the important duties confided to them.

The *Committee on Medical Ethics* with regard to consultation with female practitioners.

Resolved. "That the question of sex has never been considered by this Association in connection with consultations among medical practitioners, and that in the opinion of this meeting, every member of this body has a perfect right to consult with any one who presents the only presumptive evidence of professional abilities and acquirements, required by this Association viz—"*a regular medical education.*"

This resolution created quite a sensation, and although Doctor Washington Atlee, of Philadelphia, showed his gallantry by advocating free consultation, in the practice of medicine, with women, we incline to the opinion that the intelligent, witty, dignified and

sensible remarks of Doctor D. Francis Condie, of Philadelphia, met with a thorough response in the hearts of each and every member of the Association—we cannot endorse "*women rights*" even in the liberal profession we have espoused. The Prize Essay Committee reported two hundred dollars on hand, but no one to present it to—and recommeded the Association to hold the purse until some one should present an essay worthy of publication. The Association approved the recommendation. Dr. Cox, of Baltimore, chairman of the Committee on the Constitution and By-laws of the Association, made the report. We listened with attention to the reading of this report, while Dr. Atkinson, of Philadelphia, read the paragraphs in which the proposed alterations found a place. We incline to the opinion that the old Constitution is as perfect as it can be; we have been enabled to work well under its guidance for nineteen years, and would prefer that it should remain intact.

The most important changes suggested had reference to the admission of members and the mode of electing a president.

The report was in order of business printed in the proceedings, to be acted on at the next meeting.

The Committee on Nominations, composed of one member from each State, was accepted, and ordered to proceed to discharge its duties.

While this was being done in one of the basement rooms of the hall, the Association was entertained by Drs. Palmer and Mendenhall, chairmen of committees, the former on Medical Education, the latter on Medical Literature. These gentlemen riveted the attention of the Association while they made many suggestions by which the education and literature of the profession might be elevated. They endorsed fully the increase in the length of term of medical lectures and the number of chairs, suggested by the convention composed of representatives of a large number of American colleges, which held its meeting in Cincinnati, on the 3d of May, 1867.

Both of these reports were promptly ordered for publication, and we have no doubt they will form the most interesting part of the printed proceedings. Many valuable papers were then assigned to their respective sections for careful consideration.

Two letters were read by Dr. Atkinson, of Philadelphia—one from the medical profession of New Orleans; the other from Dr. Cornelius Boyle, of Fauquier White Sulphur Springs, Virginia, inviting the Association to meet next May in their respective localities. These were referred to the Nominating Committee, then in session.

Dr. Marsden, of Canada, stated that he had organized an association in Canada similar to the American Medical Association, and that he was happy to state that it was a perfect success; he was very desirous that a delegation from this Association should be sent to the Canada meeting in September next, and the Association immediately voted that the following gentlemen should

compose such delegation: Drs. C. C. Cox, of Maryland; John Atlee, of Pennsylvania; N. S. Davis, of Illinois; Charles Lee, of New York; Grafton Tyler, of the District of Columbia; W. M. Wood, of the navy, and S. D. Gross, of Philadelphia.

Quite a stir was now created in the convention by Dr. L. A. Sayre, of New York, who moved: "That the name of Dr. Julius Homberger, of New York, be stricken from the roll." The Doctor, in his usual frank and energetic manner, stated that this Dr. Homberger had violated the code of ethics which he had signed, by his charlatanism and improper professional conduct. He then pulled out of his pocket a letter from Dr. W. S. Mitchell Editor of the New Orleans Journal of Medicine, in which it was stated that this Dr. Homberger was advertising in the peculiar manner characteristic of charlatanism, in the city of New Orleans. The letter asked for information as to whether the said Homberger, was a member of the American Medical Association. Here quite an animated discussion ensued about practising "*specialties*," and advertising *cures* and *professional successes*. Drs. Howard, Raphel and Noell, of Baltimore, Arnold, of Georgia, Davis, of Chicago, and Palmer, of Michigan, participated.

At this juncture of affairs, when the Association was boiling over with wrath, Dr. Hartman, of Baltimore, Maryland, stated in quite an audible voice, "That the Baltimore Medical Society had requested him to offer the following preamble and resolutions to this Association:

Whereas, The third paragraph of the first article of the Code of Medical Ethics of the American Medical Association, "referring to the duties of physicians to each other and to the profession at large," expressly declares it to be "*derogatory to the dignity of the profession to resort to public advertisements, inviting the attention of individuals affected with particular diseases;*" and

Whereas, Certain members of the medical profession in the city of Baltimore, who are permanent members of the American Medical Association, have permitted their names to appear in the daily newspapers, endorsing the qualifications and professional character of a foreign specialist, who has recently settled here; therefore,

Resolved, That, by such conduct, these gentlemen have been accessory to a violation of professional ethics, and guilty of an unwarranted and unjustifiable discrimination against those members of the profession who are quietly, legitimately and unostentatiously prosecuting the respective branches of medical specialism.

Resolved, That it is the sense of the Baltimore Medical Association, that either the above paragraphs of the Code of Ethics should be so modified as to allow our own professional brethren, who are engaged in the practice of specialties, to advertise, and thus be placed on an equal footing with the foreign specialist, who is too often a mere adventurer, whom chance has thrown

among us; or those gentlemen who have permitted the use of their names to swell the patronage of a particular specialist, to the injury of equally deserving members of the profession in our own city, should be compelled to withdraw their names from such advertsicments.

Resolved, That the delegates to the American Medical Association from this society be instructed to bring this matter, so vital to the dignity and honor of the profession, before that body at the earliest possible moment.

This preamble and resolutions were immediately referred to the Committee on Ethics, and Dr. Julius Homberger was unanimously expelled from the American Medical Association.

Dr. Howard, of Maryland, moved, and the President appointed, a committee composed of Drs. E. Lloyd Howard, Frank Donnelson and Christopher Johnson, of Baltimore, to report at the next meeting of the Association, "On Specialties."

Dr. Arnold, chairman of the Committee on Nominations, then read the report. It would be entirely superfluous for me, in this brief outline, to enumerate the various committees and the gentlemen composing them. Those of most importance will be referred to.

Upon the announcement being made that the city of New Orleans, Louisiana, had been selected as the place for the meeting of this Association next May, there was a burst of applause, made stronger by the unanimous vote of the Association; and the house again came down in its full strength when the name of Wm. O. Baldwin, of Alabama, was announced as our chosen President for the next year.

Drs. Wm. O. Baldwin, of Alabama, President; George Mendenhall, of Ohio, 1st Vice President; Noble Young, of Washington, D. C., 2d Vice President; N. P. Monroe, of Maine, 3d Vice President; S. M. Bemiss, of Louisiana, 4th Vice President; Wm. B. Atkinson, of Philadelphia, Permanent Secretary; Casper Wister, of Philadelphia, Treasurer; A. G. Semmes, of New Orleans, Assistant Secretary.

Committee of Arrangements.—Dr. T. G. Richardson, of New Orleans, La., Chairman; Drs. S. M. Bemiss, C. Beard, L. T. Pimm, D. Warren Brickell, S. Choppin and W. S. Mitchell, of New Orleans, La.

Committee of Publication.—Dr. Francis G. Smith, Jr., of Philadelphia, chairman.

Committee on Medical Education.—Dr. J. C. Reeve, of Dayton, Ohio, chairman.

Committee on Necrology.—Dr. S. S. Cox, of Maryland chairman.

Committee on Literature.—Dr. Ed. Warren, of Baltimore, Maryland, chairman.

Committee on Climatology and Epidemics.—Dr. J. C. Weston, of Maine, chairman.

Committee on Prize Essays.—Dr. S. M. Bemiss, of Louisiana, chairman.

SPECIAL COMMITTEES.

On Alcohol.—Dr. John Bell, of Pennsylvania, chairman.

On Cryptogamic Origin of Disease, with special reference to recent Microscopic investigations on that subject.—Dr. Curtis, of the United States Army.

On Diseases of the Cornea.—Dr. J. L. Hildreth, of Chicago.

On Excision of Joints for Injuries.—Dr. J. B. Reed, of Savannah, Georgia.

On Vaccination.—Dr. Antisell, of Washington, D. C.

Dr. Arnold, chairman of the Nominating Committee, then reported this resolution as passed by the committee:

Resolved, That those gentlemen who desire to report on special subjects, and will pledge themselves to report at the next meeting, be requested to send their names and the subjects they desire to report upon to the Secretary of the Association.

This report was unanimously adopted by vote.

A motion was now made, by Dr. John Atlee, of Pennsylvania, "that the newly-elected President, Dr. Wm. O. Baldwin, of Montgomery, Alabama, be requested to take a seat upon the stage." After a few moments of delay, Dr. Atlee entered the hall with Dr. Baldwin upon his arm. The appearance of these gentlemen was the signal for enthusiastic applause.

Those who witnessed the meeting between the retiring and newly-elected Presidents, will never forget the tear upon the cheek, the earnest grasp of the hand, and the emotional voice which remarked: "I welcome you, Dr. Baldwin, as the representative of our long lost brethren of the South. May God bless you, your people and all of us."

Dr. Baldwin then delivered, in a dignified and graceful manner, a beautiful, manly and noble address. He candidly stated that he regarded the honor conferred not as an individual compliment, but rather as a tender to the South of the olive branch of peace and good will. He was honest enough to tell the physicians of the North the whole truth, that the doctors of the South were disposed to hold themselves aloof from their councils until they could affiliate with them as their political and social equals; and while alluding to the disasters and miseries of the war, and amid a silence which was unbroken, he eloquently concluded—"We may not forget our sorrows for the past, and we will still water with our most sacred tears the graves of our noble sons and brothers who fell victims to the strife; but wherever there is a grief at the heart, a tear for the ashes of the past, let us wipe from it all traces of bitterness, and drape its memories and sanctify its sadness with the manly and Christian virtues of charity, forgiveness and fraternal love."

You could see at the conclusion of the address the impression made; this was plainly demonstrated by the most earnest congratulations upon the stage which the newly elected President received.

Dr. Gross, of Philadelphia, then stated to the Association, "that there had been an erroneous impression in the South, that this Association had endorsed by resolution the action of the United States Government in making surgical instruments and medicines contraband of war." He, as well as Dr. Davis, of Chicago, positively and unequivocally denied that any such course had been adopted or even suggested by this Association; and Dr. Gross turning to Dr. Baldwin earnestly requested him to make this statement to the medical Profession of the South.

The Committee "*on the President's address*" then reported the following resolutions as embodying the suggestions made in that paper.

1st. *Resolved*, That the publishing Committee are hereby invested with plenary power in regard to all papers not read before the Association, or in the Section, to publish or not, as may seem expedient.

2d. *Resolved*, That a Committee of three be appointed by the Chair to take into consideration the subject of appointment of a Commissioner in each judicial district or circuit, whose duty it shall be to aid in the examination of witnesses in every trial involving medico-legal testimony, and to report at the next meeting of the Association.

3d. *Resolved*, That a Committee be appointed to report next year in regard to the subject of an annual register of the regular profession of the United States, and in the meantime to take necessary measures to carry the plan into effect.

4th. *Resolved*, That a Committee be appointed to take into consideration the subject of the best mode of providing a fund for the relief of widows and orphans of deceased physicians, and report to the Association at our next meeting.

5th. *Resolved*, That a Committee of three be appointed to take into consideration the subject of the establishment of veterinary colleges, and report at our next meeting.

6th. *Resolved*, That all hospitals and public institutions for the care and treatment of the sick should have educated, and well trained nurses; that this Association would strongly recommend the establishment in all our large cities of nurse-training institutions.

These Resolutions being adopted, the President appointed the following gentlemen Chairmen of the respective Committees:

On Scientific Medical Testimony in Courts of Justice.—Dr. John Ordronaux, of New York.

On Medical Register.—Dr. Packard, of Philadelphia.

On Relief of Widows and Orphans of Deceased Medical Men.—Dr. J. H. Griscom, of New York.

On Veterinary Colleges—Dr. Thomas Antisell, of Washington, D. C.

The following gentlemen were then appointed deligates to Foreign medical Societies: Drs. S. D. Gross, of Philadelphia; S.

J. Jones, of Chicago; G. C. Blackman, of Chicago; Fordyce Barker, of New York.:

It was understood that these gentlemen would visit Europe this summer.

The President then bid farewell to the Association—and in the course of the remarks—said.

"I congratulate you upon the manner in which you have conducted your proceedings. It is questionable whether there ever was a deliberative body of such magnitude in which there was so little discord or so little said and done of an objectionable character. Harmony, cordial and complete, prevailed from the beginning to the end. There was indeed, not one word uttered that any one, even the most fastidious, might wish to recall; a circumstance the more surprising when it is recollected that men in the heat of debate often give way to heedless and unguarded expressions calculated to ruffle the feelings and to engender unpleasant reminiscences. We have had an opportunity of reviving friendly feeling, of extending an acquaintance with each other, and of interchanging sentiments in regard to matters of vital importance to our beloved profession." The Association then adjourned.

I cannot conclude this outline of these proceedings without referring to some points of interest exhibited in the basement rooms of the Hall during the afternoon hours. The various *Sections*, (1) on Chemistry and Materia Medica, (2) Practical Medicine and Obstetrics, (3) Surgery and Anatomy, (4) Meteorology, Medical Topography and Epidemic Diseases, (5) Medical Jurisprudence, Hygiene and Physiology, and (6) Psychology, were crowded every afternoon at three o'clock by those of the profession anxious to obtain information upon the several topics of interest.

We were enabled to attend only the *Section* on Surgery and Anatomy. The most important paper before that Section was by Dr. Bozeman, of New York, "on vesico-vaginal fistula;" in this paper the following conclusions were arrived at:

The five following operations for vesico-vaginal fistula have been adopted within the last twenty years:

1st. The autoplastic operation of Jobert with interrupted tape sutures, 1849.

2d. The clamp suture operation of Dr. Sims with leaden bars and silver wire, 1852.

3d. The operation of Prof. Simon with double rows of interrupted silk sutures, 1853.

4th. The button suture operation of Dr. Bozeman with button and silver wire, 1856.

5th. Interrupted suture of Dr. Sims with silver wire alone, 1857.

Cases curable by the autoplastic procedure, 50 per cent. The number of successful operations to the whole number performed, 32 per cent.

Cases curable by the clamp suture operation, 50 per cent. The

number of successful operations to the whole number performed, 25 per cent.

Cases curable by Prof. Simon's operation, 73 per cent. The number of successful operations to the whole number performed, 38 per cent.

Cases curable by the button suture, 90 per cent. The number of successful operations to the whole number performed 55½ per cent.

Cases curable by the interrupted silver wire suture, 75 per cent. The number of successful operations to the whole number performed, 37½ per cent.

The superior advantages of the button form of suture over the other forms of suture named, as shown by the above results, are explained, not upon the presumption that silver wire is better than silk, but upon correct principles of action as embodied in this form of suture; which I consider to be as follows:

1st. The manner of affecting approximation of the edges of the fistule inside of the vagina where the sutures cannot be reached and drawn together with the fingers.

2d. The application and maintainance of a perpendicular force in such a manner as to throw the edges of the fistule away from the cavity of the bladder in a diagonal relationship between two forces; namely a direct or approximative force on the one hand, and a perpendicular force on the other. In this way the inversion is prevented, and even rendered impossible. Traction is thus taken off the tissues to a considerable extent, and dragging and cutting thereby prevented.

3d. Perfect and constant steadiness and support of the approximate edges of the fistule in their new and provisional position throughout the treatment.

4th. Protection of the denuded edges of the fistule by virtue of their perfect co-aptation, from the poisonous effect of the urine on the vesical side of the septum as well as from the irritating effect of the vaginal and uterine secretions on the vaginal side of the septum.

It would be useless for me to attempt to demonstrate the theory of the mechanism of all the sutures Dr. Bozeman exhibited. This cannot be properly given without the drawings and preparations in buck-skin which the Doctor has in his possession.

Dr. Bozeman then exhibited his spring and self-retaining speculum, a full account of which can be found in the twenty-first volume of the New Orleans Journal of Medicine, page 361. He has succeeded in thoroughly completing this instrument. It elevates the perinæum, supports the upper part of the posterior wall of the vagina, dilates the labia majora and mouth of the vagina, distends completely and steadies the upper part of the anterior wall of the vagina, the vesico-vaginal septum. In addition to this the Doctor exhibited his operating table. It is a desideratum, for it enables the surgeon to put his patient securely upon

the knees, the body flexed at right angles, and the head and chest resting upon two beautiful cushions, while the anterior wall of the anterior wall of the abdomen is perfectly flaccid and unincumbered by pressure. The anterior part of the thigh, from the patella to the groin, is firmly laced to a concave splint-supporter; a slight band falling over the small of the back, prevents the patient moving an inch during the operation.

To this table the Doctor has ingeniously contrived to adjust a tray, which holds all his operating instruments. The tray hangs suspended about two inches above the sacrum of the patient, and consequently within perfect command of the operator.

With this self-retaining speculum and table, the Doctor can operate without having any assistance, which in most cases is very desirable.

Before closing, permit me to state that the American Medical Association was invited to visit many places of interest, the most scientific, however, consisted in an exhibit of the Army Medical Museum, on Wednesday evening, May 6th, from six to ten o'clock. Here we examined the largest collection of injuries to the osseous system in the world. The account of some of these specimens is to be seen in the circulars published by Surgeon General Joseph K. Barnes, U. S. A.

In the lower hall, at eight o'clock, we were entertained by some beautiful microscopic lantern exhibitions, which were graphically described by Dr. J. J. Woodward, Surgeon A. S. A., a gentleman who, I am convinced, is destined to reach a very high position in the medical profession of this country. Dr. David E. Curtis, also of the army, assisted in the adjustment and arrangement of the slides.

Excuse me if I enter here somewhat into detail. I feel assured that the lecturers in our medical schools will, sooner or later, adopt this mode of demonstration.

Dr. Woodward had to illustrate what he said, the following as test objects: Pleurosigma angulatum, iodura plumbea, powers 1000 to 760,000 diameters; a few parasites—acarus scabei, trichina spiralis, demodex folliculorum; a few anatomical objects, muscle, bone, nerve-cell, spermatazoa, Pacinian terminations of nerves, etc. Also, a series of preparations illustrating the pathological anatomy of the intestinal ulcers of camp dysentery; a series illustrating the pathological anatomy of the ulceration of the intestine in camp fever; a series on the small-pox pustule; and lastly, a few miscellaneous objects, diatoms, etc., etc.

All the above were photographed from nature and printed on glass, the pathological specimens being printed in their natural color, carmine. The glass prints were used as slides and thrown on a screen twelve feet square, with powers varying from 1000 to 760,000 diameters. Of this power the lantern itself gave forty diameters, so that the original photographs varied from 25 to about 19,000 diameters. The lantern used was a first-class oxy-hydro-calcium stereopticon, with all the improvements which modern science has suggested.

Permit me, in conclusion, to say, that general good feeling prevailed throughout our four days' session, and an earnest desire was apparent that we should eschew politics, and knowing no North, South, East or West, lend our energies to the furtherance of a pursuit which was truly worthy of our consideration—"The advancement of medical science."

With the hope that this account may prove of interest to your readers, I am, very respectfully,

Your obedient servant,

R. F. MICHEL.

Montgomery, Alabama.

Transmission of Syphilis to Animals.

A committee was some time ago appointed in Florence to ascertain this point. Drs. Ricordi and Dell'Acqua were entrusted with the experiments, and after several months' labor the answer was given in the negative. The original cause of the investigation was a child affected with hereditary syphilis, which had been entrusted to a wetnurse in a village called Cantu. The nurse gave bran baths to the infant (covered with an eruption) in a pail from which her cow was (only once) allowed to drink. The cow presented about ten months afterwards ulcerations about the mouth, and was taken very ill. It also happened that the bull suffered from ulceration which the veterinary surgeon could not refer to ordinary complaints, and the outcry was that the child had poisoned these animals. More than these two heads of cattle, however, were attacked with ulcerations, and the Committee had much trouble in clearing up and arranging the facts. Not less than twenty-one distinct experiments were made, and the final result was, as we stated above, that the disease in question is *not* transmissible to animals.—*Lancet.—Medical Record.*

Death of Dr. Foard.

DR. A. J. Foard, formerly surgeon U. S. Army, and more recently Medical Director of the Confederate Army of Tennessee, and Professor in the Washington Medical College at Baltimore, died in Charleston, on the 18th instsnt. Dr. Foard was born and raised in Baldwin county, and was in his 43d year at the time of his death. His remains arrived in this city on Friday afternoon, and were escorted to the house of his friend, Dr. S. G. White, where they remained in state until Sunday afternoon. The funeral discourse was made by Rev. Mr. Flinn, of the Presbyterian Church, and the closing services read by Rev. Mr. Malloy of the Methodist Church. The character of the ceremonies, and the large assemblage who followed the body to the grave, evinced the interest all classes felt in the deceased. His memory will be cherished by all who knew him.—*Ex.*

Obituary Record.

DIED, March 2, at Savannah, Georgia, aged eighty-three, Wm. Gibson, M. D., Emeritus Professor of surgery in the University of Pennsylvania. Dr. G. was a highly educated, experienced, and skilful surgeon, and a most attractive and excellent lecturer. As the successor of the illustrious Prof. Physick in the surgical chair, he had a most trying position to fill, but he proved himself equal to the task, and gave general satisfaction by the clearness and earnestness of his teaching, and the numerous drawings and preparations with which he illustrated his lectures.—*Medical News and Library.*

Average Duration of Life in Italy.

THE director of the Italian Life Assurance Society, M. W. Rey, has published some interesting statistics showing the average duration of life in Italy as compared with that in other countries, from which it appears that the mortality of Italians is exceptionally great. He shows that in Italy, 22½ per cent. of the infant population die yearly, and that, even in the healthiest districts, the average duration of life is 33.43 years only, while in France it is 38.33, at Geneva, 42.02, and in England, 39.31. The number of births, too, is relatively much smaller in Italy than in England and France.—*Medical Record.*

Death of Prof. Pirigoff.

THE death of this world-renowned surgeon took place a few days ago under extraordinary circumstances. Being at Odessa, Pirigoff was called in consultation to a patient near that city, and on his return was attacked by a gang of highwaymen. He killed two of them, while the others escaped, and he pursued his journey, feeling that he had narrowly escaped the danger of being murdered. But when he reached his house, Pirigoff was seized with symptoms of cerebral congestion, and he soon after expired from the effects of the murderous attack.—*Medical Times and Gazette.*

Fat from Albuminous Matter.

WE regret that want of space should, in this issue, prevent us from doing more than to give the results of some very interesting experiments which promise, not only to be of the highest interest to the physiological chemist, but also to revolutionize to a certain extent, the physiology and practical medicine of the future. We allude to the experiments of Prof. Pettenkofer and Vort of Munich, from the results of which it is announced that fats can be formed in the body as the result of a chemical metamorphosis of pure albuminous matter.

CORRESPONDENCE.

LOUISVILLE, KY, June, 1868.

Editors of the New Orleans Journal of Medicine—Gentlemen: In the number of your Journal for April, 1868, there appears an article, entitled, "Observations on Diphtheria: by Dr. H. D. Schmidt, of New Orleans." In this paper, there are several allusions to certain statements made by me in an essay which I once prepared upon this subject. As these allusions tend to place me in a very false position before the medical public, not only as a writer upon this subject, but as one who should be familiar with the elements, at least, of pathology, you will, I am sure, allow me the privilege of occupying a brief space in the July number of your Journal.

It may be asked, why this letter should not be published in the Richmond and Louisville Medical Journal, with which I am at present intimately identified? The reply is simple and brief. I respect the opinions of the readers of the Journal, and so value their respect, that I adopt the only course by which I can obtain a professional appearance before all of them. In addition to this, I hope, by sending a communication to your Journal (which all impartial judges regard as unsurpassed by any publication in this country), to induce some of your editorial corps to do me the favor of appearing in the pages of the Richmond and Louisville Medical Journal.

I will not make any reference to Dr. Schmidt's elaborate description of the topography of the country surrounding the family in which his *single* case of diphtheria occurred; nor to his demonstrations of the malarial element of the atmosphere breathed by the mother of the child who suffered from diphtheria; nor to the statement made by him, that, after the failure of two physicians to diagnosticate the malady which prostrated the mother, he identified the disease as typhoid fever: nor to the fact that the father of the child had several attacks of intermittent fever; nor to the explanation of the father's visit to him, which was to request the Doctor's attendance upon the future diphtheritic patient, who then had yellow fever; nor to the welcome information, that, under proper treatment, the mother recovered from her typhoid fever, the father from his intermittent and the daughter from her yellow fever; I will not dwell upon the statement that this poor child then suffered from intermittent fever, and subsequently to this (as though her cup of anguish was not yet full), that she labored under a remittent fever, which, in due season, disappeared, and that then "she had typhoid fever," after the appearance of which the child's "disease had thrown off its last mask, and stood there in the form of diphtheria."

I will not, as I said, make any detailed reference to these facts, because I do not think it right to harrow unnecessarily the feel-

ings of your readers, and because I cannot appreciate the relation which most of these statements bear to the title of the Doctor's article, "Observations on Diphtheria." I have alluded to these antecedent circumstances, only that I may be able to place the reader in entire possession of the circumstances and facts which induced Dr. Schmidt to suppose that the fellow fever, remittent fever, intermittent fever and typhoid fever were *masks* of the subsequent diphtheria.

That most of the exanthemata may precede an attack of diphtheria, and so may possibly be regarded as *masks*, all physicians will allow; but that the diseases mentioned were masks of the subsequent diphtheria few will hesitate to deny.

In connection with the treatment of diphtheria, Dr. Schmidt alludes to the use of an etherial solution of bromide of iodine, as recommended in the essay specified, and mentions, "as the strength of bromine of this etherial solution was not stated, I found myself at a loss about the strength of the mixture," etc. This remedy, recommended by Dr. Metcalfe, of New York, both for constitutional treatment and as a local application, may be used by all, and none need be at a loss in regard to its strength. The directions given are simple—"Saturate an ethereal solution of bromide with metallic iodine." If any quantity of bromine be taken, and ether sufficient be added to this to dissolve the bromine, there is, as a result, an ethereal solution of bromine. The liquid is then to be saturated with metallic iodine and the preparation is ready for use. The "topical application" consists of "five drops of the bromide of iodine to the fluid ounce of gum syrup."

I cannot appreciate the obscurity alleged.

Dr. Schmidt, in further discussing the subject of treatment, says: "I put the child on a solution of the chlorate of potassa, with a little quinine. This I preferred to Dr. Gaillard's remedy, bromide of potassium," etc.

I can only say, that I have never used the bromide of potassium in the treatment of diphtheria; that I have never recommended its use; that any allusion to it, in connection with the treatment of this disease, is not once made in the essay mentioned, while the use of chlorate of potassa and quinine is repeatedly mentioned therein.

I come now to that portion of Dr. Schmidt's article in which he claims that I manifest great inconsistency, and a great want of accuracy, in regard to pathology; in which he makes certain statements which, if accepted as correct, would subvert the most clearly established laws of modern physiology.

I quote from the article: "Dr. Gaillard, in his essay on diphtheria, attaches great importance to the character of the exudate, and, reasoning from microscopical examinations and views of various pathologists, undertakes to prove that it is fibrinous and incapable of development and organization, and that therefore the disease must be one in which the blood undergoes a great

change. Yet while denying development and organization to this exudate, he still admits it to consist of a 'fibrillation of fibrin,' containing in its network (besides other anatomical elements) granules and exudation corpuscles. To my mind, this argument appears contradictory in itself, and must be fallacious, for the mere 'fibrillation of fibrin' (like the formation of a crystal in the inorganic world) is already a step towards organization, and the presence of exudation cells proves both organization and development. When an exudation takes place from the blood-vessels, the liquid effused is homogeneous and, in consequence, not organized, but as soon as it assumes any form whatever organization has commenced."*

More unfortunate statements could not have emanated from any writer. Charity would lead me to say nothing in regard to the manifest fallacy contained in each one of them, but there are two considerations which induce me to adopt a different course; the first is a natural desire to protect myself from the public imputation of ignorance, and the other is that such assertions have a direct tendency to produce mischievous errors, in regard to the most elementary, important and well established laws of medical science.

To commence with the least important part of Dr. Schmidt's criticism, I will say that I have not attempted to prove that the exudation of diphtheria is fibrinous; for not professing to be familiar with the microscope, I have only given the opinion of such experts as Brettonneau, Trousseau and Empis, of France; Wade, Wilks, Sanderson and Greenhow, of England; Rokitansky and Virchow, of Germany; Laycock, of Scotland; Alonzo Clark, Hartshorne, Jacobi, etc., of America. Their opinions must be accepted or rejected in this connection and not my own. From all that I have read and seen, however, I will say that I accept their statements, without qualification or reserve.

Regarding the exudation of diphtheria, as a "fibrillation of fibrin," I have not attempted to prove that it is incapable of organization and development, for if consisting of fibrillated fibrin, organization is of course impossible. In other words, there was no necessity of my proving an admitted fact. Physiologists do not pretend to regard this as a disputed question; it has been thoroughly settled.

It is proper now to examine those criticisms of Dr. Schmidt which contain serious errors, and which, if uncorrected, must produce confusion at least, if not injury.

The Doctor states that my "argument appears contradictory in itself and must be fallacious; for the mere 'fibrillation of fibrin' is already a step towards organization."

It is difficult to understand how so accomplished a writer could make so serious a blunder. In the last edition of Dalton, that

* Physiologists state that at this period *disorganization* has commenced.—E. S. G.

accurate physiologist uses this language, the text being presented by him in italics: "*The coagulation of fibrin is not a commencement of organization.*" Again, he writes of the coagulation of fibrin, "still less does coagulation indicate anything *like* organization, or even a *commencement* of it." He further adds, "as soon as fibrin is once coagulated, by any means, it passes into an unnatural condition." Lastly, he declares that, "in every instance, the coagulation of fibrin is a morbid phenomenon." As according to all physiologists, coagulation of fibrin precedes its fibrillation, and as fibrin coagulated is already in a morbid and unnatural condition, it follows, necessarily, when fibrillation (a second or subsequent phenomenon in the course of dentalization) takes place, that organization is impossible.

Are we, however, to rely upon reasoning in this matter? Fortunately not.

Flint, in his recent work, on "the Physiology of Man" and in that portion of it devoted to the examination of the blood, writes as follows: "The conditions under which the organization of fibrin has been assumed to have taken place, are in clots remaining after vascular extravasation and in fibrinous exudations, upon inflamed surfaces. The most important information is to be derived from a study of the anatomical character of such effusions. By the microscope and all means of investigation which are at our command, it is impossible to distinguish, in these effusions, anything but fibrin. There are no blood-vessels, nerves, nor any anatomical elements which would lead us to suppose them *capable of self-regeneration*, that distinctive property of all organized tissues, and, in addition, these are never developed. *The changes which these effusions undergo are retrograde in their character, and the fibrin, if it be not absorbed, remains as a foreign substance. The fibrillation which takes place is by no means an evidence of even commencing organization.*"

Again Professor Flint writes, even more emphatically, as follows: "There can be no doubt, that *effused and coagulated fibrin is incapable of organization*, and it may be further stated, as a general law, that no single proximate principle, nor mere mechanical mixture of proximate principles effused into any part of the body, ever acts in any other way than as a foreign substance."

With such testimony as has been given is it necessary for me to defend further the pathological statement made in the essay that the fibrillated fibrin in the exudation of diphtheria is incapable of organization? I think not.

Dr. Schmidt again states that I am inconsistent and incorrect in affirming that development and organization in a diphtheritic exudation are impossible, when I admit that this diphtheritic exudation "contains exudation-corpuscles."

In criticising what he regards as an inconsistency, or an error, on my part, in this connection, he states, as his physiological axiom, that "the presence of exudation-cells proves both organization and development," etc. I will not *argue* this point. All

physicians admit, that as an authority on cellular pathology no one ranks higher than Virchow. I will quote *his language on this subject:* "At present, we regard this body (the exudation-corpuscle) as the first distinct proof of degeneration." Again he writes of the presence of the exudation-corpuscle: "This is the manner in which disintegration of nearly all parts takes place," etc.

Can it be at the present day claimed, then, in the language of Dr. Schmidt, that "the presence of exudation-corpuscles proves organization?"

Dr. Schmidt claims, that the presence of the exudation-corpuscle is an evidence of "organization and development." Virchow states that the presence of the exudation-corpuscle is "the first distinct proof of degeneration," and that it is in the presence of this corpuscle that "the disintegration of nearly all parts takes place." Shall we say of this discrepancy—*lis sub judice?*

It is useless to discuss this subject farther.

The Doctor terms my essay "a compilation," yet he criticises my "remedy," pathology and treatment. I will be justified, I hope, by all, in saying that, exclusive of the history of this disease up to the period when I commenced a study of it, and exclusive of the microscopic details connected with its pathology, I believe the essay to be original. If I am wrong in supposing it, except in these respects, to be so, I am ignorant of such portions of the literature of the subject as bear a resemblance, either in conception or diction, to those parts of the essay which physicians, better informed, may regard as not original. Many portions of the essay have been generally republished, and no one, so far as I am aware, has intimated that any matter in the essay, other than that named, has ever been previously presented to the public. I am content, however, to leave this question to the decision of others.

I will only say, in conclusion, that after eight years of study and observation, I have seen no reason to modify views, publicly expressed elsewhere, in regard to the nature, pathology and treatment of this disease.

Regretting that I have been unable to write more briefly, I am, Messrs. Editors, with the best wishes for the success of your Journal, Very truly, yours,

E. S. GAILLARD, M. D.,
Professor of General Pathology and Pathological Anatomy, in the Kentucky School of Medicine.

The following is taken from a letter recently received. It will explain itself:

NEAR GEORGE TOWN, S. C., April 17, 1868.

DR. LOGAN, Dear Sir: On the 1st April, 1867, I was consulted in the case of an infant two and a half months old, for an inflam-

mation of the right mammary gland. The child had been very fretful and feverish for several days before it was discovered. I found the gland hard, excessively painful, of a purplish hue, about the size of a large marble, and with marked *retraction of the nipple*. This last symptom formerly considered of specific value as diagnostic of malignant desease excited serious apprehensions, which I concealed from the mother—intending on my next visit to try the tinct. iodine externally. I directed a pledget of very fine lint saturated with cold linseed tea applied over the circumference of three or four inches, and oil silk over this to keep the part moist, until I called again. Three days after, I found the tumor thinning and evidently advancing to suppuration. The treatment was continued, and on the fifth day I discharged *above* the nipple a well circumscribed abscess which had thinned the walls so as to point. The case gave no further trouble. There was no sympathetic irritation of the axillary glands or of the opposite breast. Two days ago I examined carefully and found the nipple still retracted; in other respects normal. This case does not sustain my preconceived opinions as to the *retracted* nipple being diagnostic of malignancy. It is the first case of suppuration in the gland that I have seen in so young a subject, and it would be exceedingly interesting to note hereafter, if the functions of this gland should be interrupted or obstructed in its maternal development. Similar cases have been noted by Bryant and others, but the *sequel* I shall not live to record—and I have not yet found in my reading, the first instance showing the influence or effect of suppuration *in infancy*, upon the maternal functions of this gland. If your experience can settle the point I think it worth recording.

Very respectfully, etc.

J. R. SPARKMAN.

Our experience does not point to any case which would bear upon the question raised by Dr. Sparkman. If any of our readers can throw any light upon the subject, our pages are open to them.—ED.

EDITORIAL AND MISCELLANEOUS.

The Reported Cases of Yellow Fever.

As no little anxiety has been manifested in regard to the appearance of yellow fever in this city, we have taken considerable pains to investigate the rumored cases, which were finally reduced to five. Of these four presented so much room for doubt, that it is unnecessary to notice them, farther than to say that from conver-

sations with the attendant physicians and others who saw the cases, the doubt inclines very much against their being yellow fever. Of the other case we publish a report in full, the data of which have been very kindly collected by Dr. L. A. Burgess, and present it to the profession with the only comment that the matters in the stomach was examined microscopically by Dr. H. D. Schmidt, and pronounced to be "black vomit."

"Michael Daily, born in Ireland aged seventeen, a resident of this city for thirteen years, was admitted into the hospital on the morning of the 4th June, and died at two o'clock P. M. the same day, having thrown up black vomit.

The facts of the case are briefly these: Daily lived with and was employed by a Mr. Westrup (192 Camp street), to drive a bread cart; had been so employed about one month; never sold bread to ships, or went about the wharves or shipping. Daily went to Carrollton on Sunday; returned home late Sunday afternoon, and on Monday morning reported himself sick and unfit for duty; had fever from Monday until Wednesday evening, no vomiting during the continuance of the fever, or delirium, but complained of pains throughout his whole system. On Wednesday evening was much better, clear of fever and skin soft and perspiring—expected to get up the next day.

About twelve o'clock that night a change for the worse occurred, patient became exceedingly restless, and at times it was impossible to keep him in bed, had several convulsions, and just before he was sent to the hospital threw up what appeared to be blood. Was sent to the hospital about seven o'clock, and was then and had been for several hours before in an insensible condition. After admission into the hospital, patient threw up black vomit, and died about two o'clock in the day.

Autopsy—five hours after death.—Icterode hue very slightly perceptible; ecchymosis of lower portion of the face, ears and posterior portions of the neck. Brain very much congested; lungs natural; stomach slightly congested and containing but eight or ten ounces of black vomit; but the mucous coat presented no softening. Liver very much engorged; bled freely when cut into, and was of a dark red color; gall bladder contained about the usual quantity of bile of a more or less natural quality; kidneys congested; bladder contained two or three ounces of urine which was albuminous. Spleen of a darker color than natural, some softening, and gorged with dark jelly-like blood."

Neither the personal history nor the post-mortem appearances presented by this case are inconsistent with the supposition of congestive fever, while the impossibility of obtaining a reliable account of the symptoms presented before death, tends to throw still more doubt upon the supposition of its being a case of yellow fever. Black vomit of itself does not necessarily indicate yellow fever. W. S. M.

The O'Reilly Prize.

THE attention of the profession is particularly called to the following notice, which explains itself:

O'Reilly Prize.—Dr. Jno. O'Reilly, of New York, having offered, through the N. Y. Academy of Medicine, a prize of six hundred dollars for an essay on the Physiology and Pathology of the Sympathetic or Ganglionic Nervous System, the Committee of Award, appointed by the Council of the Academy, have adopted, with the concurrence of the Council, the following regulations:

1. The competing essays shall be sent in to the chairman of the committee, Prof. J. C. Dalton, M. D., No. 101 East Twenty-third street, New York, on or before the first day of March, 1869.

2. Each essay shall be marked with some distinguishing device or motto, and accompanied with a sealed envelope bearing the same device or motto, and containing the name and address of the writer.

3. The essay selected by the committee shall be transmitted by them, together with its accompanying envelope, to the Council of the New York Academy of Medicine, under whose direction the envelope shall be opened, and the name of the writer announced at the first meeting of the Academy in May, 1869.

4. The prize is open for universal competition.

5. The committee have a right to reject whatever does not come up to a proper standard of merit.

ALFRED C. POST, M. D. President of the Academy.
On behalf of the Council.

Committee of Awards—J. C. Dalton, M. D., Professor of Physiology in the College of Physicians and Surgeons, New York; A. Flint, Jr., M. D., Professor of Physiology in the Bellevue Hospital Medical College, New York; Alfred L. Loomis, M. D., Professor of the Institutes and Practice of Medicine in the University Medical College, New York.

WE would call the attention of our subscribers to the fact that Dr. W. T. Cox, of Bayou Tunica, La., wishes to dispose of a full copy of the American Journal of Medical Sciences from its commencement, 1827, applications will be received at this office.

DR. E. S. GAILLARD, editor and proprietor of the Richmond Medical Journal, Va., having resigned the Professorship of General Pathology and Pathological Anatomy in the Medical College of Virginia, and having accepted a similar Professorship in the Kentucky School of Medicine, the Journal mentioned will hereafter be published at Louisville, Kentucky. The title of the Journal will be "The Richmond and Louisville Medical Journal." Vide adv.

THE following letter we respectfully refer to our readers as something refreshingly cool for the season.

Editor New Orleans Medical Journal—With a complacent beneficence habitual to me, induced by a long-continued belief in my own genius and undoubted ability, I have determined (with my usual humane feeling of fellowship) to afford the suffering public an opportunity of deriving as much benefit from my vast store of surgical knowledge and general erudition, guided by a naturally acute and comprehensive mind, as may be necessary for the successful treatment of their respective cases. In order to bring this object prominently forward, and to establish my enviable reputation (which otherwise the obtuse public mind might fail to discover), I have concluded to do you the honor of making the statement through your Journal. I am cognizant of the fact of an insane objection existing to this course; but am I therefore to hide my light under the cloud of prejudice? No! With scorn and a graceful motion of the arm, I gently waive aside the inane prejudices of the narrow-minded, and with the *abandon* of genius, which disregards the views of those who unfortunately constitute so large a proportion of all communities, I publish my ability and readiness to apply it.

Having devoted eighteen years of unremitting labor to the investigation of diseases pertaining to the nose, mouth and ears, and finding myself unprecedently proficient in the treatment of the same, I have devoted myself specially to this branch of surgery. I am now accessible to all those who need my services. Cases are on record wherein I have excised a hair from the ear, or amputated a furunculus situated on the internal surface of the nose, with the most perfect success. I cordially invite any or all the members of the medical profession in this city to send me their cases without ceremony; the emolument being a sufficient consideration to relieve any obligation they might feel they would rest under. I was afforded some slight diversion by the perusal of your playful article on "Professional Charlatanism" in your issue of April, but suggest that the style be discontinued, as its tenor might be misapprehended by some of your readers. It is entirely unnecessary to adduce such testimonials as the following, which I merely insert in order to gratify the gentlemen from whose innocent and confiding minds it emanates:

OFFICE OF "LAST RETREAT" FOR INDIGENT MEMBERS OF THE COSMOPOLITAN ASSOCIATION FOR THE DIFFUSION OF IMPRACTICABLE INFORMATION.
New Orleans, May 31st, 1868.

Dr. Paracelous Kumoverus—Dear Sir: At the last meeting of the Board of Directors of this institution, the following resolutions were vociferously and unanimously adopted by a majority of one:

Resolved, That through the instrumentality of Dr. Kumoverus, whose operations are invariably satisfactory and effective, parti-

cularly so in the case in this Retreat, an encumbrance has been removed and the patient entirely relieved. *Requiescat in pace!*

Resolved, That the thanks of the Directors are due Dr. Kumoverus, and are hereby tendered him, for the efficacious service rendered in the case.

Resolved, That he is an ornament to society and of immeasurable benefit to all who have gone before him.

Resolved, That Dr. Kumoverus is——that he—— in fact, that there can be no doubt of it.

Resolved, That these proceedings be published in some daily papers, and a copy be sent to Dr. Kumoverus.

By order of the President:

O. DE COLOGNE, *Secretary pro tem.*

I would incidentally mention that subscriptions for the society will be received through me.

You may send me a copy of the Journal in exchange for this letter. Fraternally and substantially,

PARACELOUS KUMOVERUS, M. D., N. M. E. S.

We copy the following from the letter of a friend: "Have you ever seen a full blooded African with a distinct case of delirium tremens, I have not to my recollection. This is a study for the Psychologist." Will some subscriber be kind enough to answer.

WE beg leave earnestly to call the attention of our readers to the advertisement of Messrs. Hegeman & Co., New York, in this issue. Messrs. H. & Co. have kindly furnished us with specimens of their extract cordial of calisaya, their ferrated extract of bark and their cod-liver oil. As specimens of elegant remedies, we can safely say that they stand unsurpassed. We have long known the elegance and purity of Hegeman's ol. morrhuæ; but it is only lately that we have examined his elixirs. Of them *all* that we can say is, that they are superb—reliable—just as they are represented, and we take pleasure in endorsing and recommending them.

To Subscribers.

No one is to be considered as authorized to collect or solicit for this Journal unless possessed of a written authorization, or unless regularly announced in the list of agents appearing in every publication of the Journal. Hereafter Dr. A. H. Beazley is authorized to act as agent for Houston and vicinity.

We acknowledge the receipt of samples of the following chemicals, etc., from Messrs. E. J. Hart & Co., 73 Tchoupitonlas street, New Orleans, through the politeness of Dr. Keffer:

Alpha pepsine, prepared by J. Jourdan, Paris. This is a very excellent preparation, and to those physicians who wish to give pepsine a trial we highly recommend it. Borden's extract of beef, put up in ounce packages. A very excellent preparation, and one which possesses the great advantage of remaining perfectly sound in any climate for any length of time. Cadmii iodidum, bromide of potassium, santonin pulv., bismuth valerianas, cadmii bromidum, and also many most excellent powdered preparations, among which we mention capsicum, nux vomica, etc.

We would inform the numerous friends of Dr. J C. Nott, formerly of Mobile, that he has removed from Baltimore to New York, and can be found at No. 16 West Twenty-third street, opposite Fifth Avenue Hotel.

Communications from the following parties have been received: T. C. Osborn, M. D., Wm. M. Turner, M. D., T. C. Hill, M. D., E. M. Pendleton, M. D., K. C. Devine, M. D., J. D. Rankin, M. D., Jno. C. Peters, M. D., J. P. Metauer, M. D.; Dr. S. Eagan, Jefferson City, Texas; J. S. Weatherly, Montgomery; Prof. Saml. Logan, M. D.; Dr. J. C. Caldwell.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Treatise on the Diseases of the Eye, Including the Anatomy of that Organ; by Carl Stellwag Von Carion, M. D., Professor of Ophthalmology in the Imperial Royal University of Vienna. Translated from the third German edition, and edited by Charles E. Hackley, M. D., and D. B. St. John Roosa, M. D., of New York, With an appendix by Editors. Illustrated by ninety-six wood cuts and eighteen cromo-lithographs, 774 pages. Wm. Wood & Co., 16 Walker street New York.

The very size and extended scope of this work prevents any thing like a review, since it is in fact an encyclopedia of all that is known at the present time upon the subject it purports to treat, and we know of no work on the subject of ophthalmology which we could more conscientionsly offer to the advanced student. Really we find so little in it to criticise that it is with some regret that we feel called upon to object to a rather unne-

cessary adherence in some instances to the German idiom, and at the same time to express a regret that the editors had not taken the occasion to place before the public in a more prominent manner their own very extended experience on the same subject.

We have always thought it strange that the anatomy and physiology of the eye should have been so much neglected in every treatise upon diseases of that organ, when, in all works on anatomy and physiology so little has been said, this deficiency Stellwag most admirably supplies, and throughout the entire work we almost insensibly pass from the anatomy through the physiology to the direct consideration and treatment of each disease, for instance, to illustrate; opening the work as chance indicate we fall upon Iritis—this we find divided as follows:

1st, Anatomy; 2d, Nosology; 3d, Complications; 4th, Symptoms; 5th, Causes; 6th, Time of Appearance; 7th, Course; 8th, Results; and 9th and lastly, Treatment

In conclusion, although we complain of some little which savors, in our opinion, too much of the *German* theory, we feel that we cannot recommend the book too highly to our medical friends.

A Manual of the Dissection of the Human Body; by Luther Holden, L. R. C. S., Assistant Surgeon of and Lecturer on Anatomy at St. Bartholomew's Hospital, London. With notes and additions by ERSKINE MASON, M. D., Demonstrator of Anatomy in the College of Physicians, New York. Robert M. DeWitt, New York Publisher.

WHEN we take into consideration the many excellent works on anatomy extant the task of criticizing at length any new addition to the list seems to be quite unnecessary, since of course but little of originality is to be expected beyond mere arrangement, and illustration. In the work before us we find the style clear, and the subject matter placed before the reader in manner far superior to any other work of the kind familiar to us, and we think the additions of the editor add materially to the value of the book when placed in the hands of the student.

We would, we think, do injustice to both the author and the editor, did we recommend the work as a sole guide in the study of anatomy to the advanced student, but in the earlier studies of the branch and in the dissecting room we know of no work its superior.

We are sorry however, to see that whilst the type is large and the printing generally most excellent, the cuts are rather coarse, we might say inconsistently so with the execution otherwise wise, however they are accurate.

Holden's Manual of Anatomy. Edited by Erskine Mason, M. D., 588 pages, 1868. Robert M. DeWitt, New York. From editor and publisher.

This work we consider, without exception, the most thorough and complete ever published on the subject.

Electro Physiology and Therapeutics, etc. By Chas. E. Morgan, A. B., M. D. Edited by W. A. Hammond, M. D., 714 pages, 1868. Wm. Wood & Co., New York; Jas. Gresham, New Orleans.

Odontalgia; its Causes, Prevention and Cure. By S. Parsons Shaw. Octavo, 258 pages, 1868. J. B. Lippincott & Co., Philadelphia; Blelock & Co., New Orleans.

Lectures on Othopædic Surgery, delivered at the Brooklyn Medical and Surgical Institute. By Louis Bauer, M. D., M. R. C. S., etc. Second edition, revised and augmented, with 84 illustrations, 336 pages, 1868. Wm. Wood & Co., New York; Jas. Gresham, New Orleans.

A Practical Treatise on the Diseases of Women. By T. Gaillard Thomas, M. D., Professor of Obstetrics and Diseases of Women and Children, College Physicians and Surgeons, New York. 219 illustrations, 625 pages, 1868. Henry C. Lea, Philadelphia; Krull & Dickey, New Orleans.

Atlas of Venereal Diseases. By A. Cullerier. Translated from the French, with notes and additions, by Freeman J. Bumstead, M. D., Professor of Venereal Diseases, College of Physicians and Surgeons, New York. In five parts (three received). Henry C. Lea, Philadelphia, 1868; Krull & Dickey, New Orleans.

Sanitary Institutions during the Austro-Prussian Italian Conflict. By Thos. W. Evans, M. D., 3d edition, Paris, 1868. From Messrs. John Wiley & Sons, New York.

Cases of Poisoning by Summer Berries. By John Millar, M. D., F. R. C. S., etc., Edinburgh. From author.

Notes on the Epidemic in St. Petersburg during 1864 and 5. By John Millar, M. D., etc., Edinburgh. From author.

List of New Publications. From N. Trubner & Co., 60 Paternoster Row, London, Eng.

A Medical Report upon the Uniform and Clothing of the Soldiers of the U. S. Army. April 15, 1868. From Surgeon General U. S. Army.

Report of the Ninth Annual Meeting of the New Sydenham Society, London, England. From Secretary.

Catalogue of Optical Instruments. From Jas. W. Queen, Philadelphia.

A new Property of the Bromide of Potassium; its power in checking reflex nausea, induced by the administration of anæsthetics. Pamphlet, 23 pages. By Alex. J. Stone, M. D., asssistant to Prof. H. R. Storer.

The Endoscope; its application, etc. By A. J. Desormeaux; translated by R. P. Hart, M. D. From translator.

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N. B.—Copies of the Journal will be found for sale at BLELOCK & Co.'s, and other Book and Periodical Stores in this City.

THE

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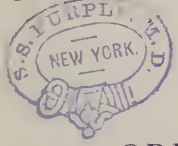


OCTOBER, 1868.

ORIGINAL COMMUNICATIONS.

ART. I.—*Notes from Lectures of Prof.* WARREN STONE, *University Louisiana;* by WARREN STONE, Jr., M. D.

1.—*Remarks upon certain Pathological Conditions of the Gastro-Intestinal Mucous Membrane, and the Effects of Calomel.*

I am well aware that it may probably appear ridiculous to many to speak of a remedy that has been in use for three hundred and fifty years, but my firm convictions as to its inestimable value when properly applied, urge me to raise my voice in its behalf.

I readily acknowledge that our profession in general is well posted so far as reading is concerned. Indeed, many are so well posted in all the new remedies that are so emphatically advocated in almost every medical journal, and believe themselves possessed of such a host of cures for every malady, that they are much like a child in a toy shop,—do not know which to choose.

The chief distinction between practitioners of medicine does not consist so much in the difference of their general knowledge, as in their ability to determine with precision pathological conditions, and to apply remedies appropriate as to quality and quantity, with proper skill and judgment. In critical cases one patient will recover, and another will die under what might, in a general sense, be called the same treatment, but the different result is due to the nice application of the remedies in the one

case, while in the other, probably too much or too little of the same agent is used or not used with equal advantage. It is quite certain that our profession is much more deficient in therapeutics than in any other branch. If we rely solely for our knowledge of the action of medicine in disease upon experiments made upon the healthy subject, we most undoubtedly can form but exceedingly imperfect ideas, which will, in many instances, lead us into serious errors in practice. If we would only observe carefully, and determine carefully the great value of small things properly directed, we would never be troubled by homœopathy.

Sir John Forbes was a very learned man in a general way, but he knew nothing about medicine or its application, or he would not have written as he did against all medication whatsoever. I have no doubt he himself, had done more harm than good by his pell-mell use of medicine, and that it was quite proper and humane in him to abandon it, but he deserves great censure for attempting to deter others from exercising their better organized minds in learning to use therapeutic agents for the relief of human suffering.

Sir John had the capacity to observe the mischief he had done (which is not the case with every heroic practitioner), but he was not gifted with the genius to correct his errors.

Thirty-five years ago, I had a fine opportunity to observe the abuse of calomel in indiscriminate doses without allowing myself to partake of the sin.

Thirty grains each of calomel and jalap constituted what was called the pulvis catharticus of the hospital. Sixty to eighty grains of calomel were given at a dose in yellow fever, and in a few cases of cholera half ounce doses were administered. It is but just to say, however, that in some cases it was used in small doses, from which I learnt something; although, on the whole, I became disgusted with its use, and as venereal diseases about this time assumed a phagedænic form, especially if mercury was used early, I abolished its use almost entirely.

Subsequent close observations have shown me its great value when used at the proper time and in appropriate doses, and as the world in general have not recovered from the horror created by excessive use of it in former days, I am induced to contribute

my mite towards the restoration of this valuable medicine to its proper place among therapeutic agents.

I consider that the first action of calomel is exerted upon the mucous membrane.

The condition of the mucous membrane, in which I have always found calomel to exercise its most favorable influence, is what I deem to be engorgement.

When this state of engorgement exists, it promotes free secretion of vitiated matter, which is popularly called "bile," when, in fact, it is nothing but an outpouring from the overloaded mucous tissue. When the mercurial is absorbed, and acts upon the tissues at large, then the liver comes under its influence, and in certain pathological conditions of this organ its action is highly favorable, but not more so than in other organs laboring under similar difficulties.

For example, take the testicle in a state of sub-acute or chronic inflammation, and it will be found that the effect of mercurials is as prompt and decisive as in the case of an indurated chancre

It may be well to admit that it is quite probable that the action upon the testicle is even more prompt and decisive, but this is entirely due to its higher organization.

This condition of engorgement will very often be found to exist in those suffering from miasmatic poison. A fever comes on at night, passing off towards morning with a sweat. The urine high colored even—of a brown or porter color—and the patient complaining of oppression or a sense of fullness about the epigastrium. In such cases two and a half grains of calomel and bicarb. soda, each, will act with great certainty, and as a rule very freely. The very morbid secretions induced becoming active physic. This quantity given on a healthy stomach would produce little or no effect.

I very often prescribe to stout laborers suffering as above mentioned, and to whom no discretionary directions can be given, ten grains each of calomel and bicarb. soda, in four pills, and two scruples of quinine, in four powders—and direct them to take a pill every night and a powder every morning, and to return when through with the medicine.

They have almost invariably reported that the first pill acted

very freely, the second not so much, the third still less, and the last not at all.

It may be proper to state, that, in some cases, calomel when administered in this quantity, establishes a flow of the morbid secretions, which is commonly called bilious diarrhœa, requiring to be checked by bismuth, mild astringents, etc.

When the warm weather first set in this year, I was frequently consulted for slight derangements of the stomach, which were characterized by a sense of weight or oppression about the epigastrium, want of appetite, and disagreeable taste in mouth. I generally ordered six grains of calomel and twelve of white sugar, to be divided into four powders—one to be dropped on the tongue twice a day. It was seldom that more than two powders were required.

I mention this to show that great relief is afforded by these small doses without sickening or weakening the patient, when the doses of old times of five, ten, fifteen, and even twenty grains, which were considered small, would seriously derange the system.

The stomach sympathizes with the system at large to a remarkable degree, particularly under great nervous shocks, such as are produced by grave operation, gunshot wounds etc.

The condition of the stomach so induced is often aggravated by the use of alcoholic stimulants, opium and chloroform.

More or less collapse is the natural consequence of these shocks, and active stimulation would be the first to suggest itself as the most appropriate proceedure, but if the patient be allowed his own choice, he will call for cold water in preference to anything else. In this he should most unquestionably be gratified, and let alone, unless the collapse is so profound as to become dangerous, when instead of pouring stimulants on the stomach, they should be administered by the rectum, which, under any circumstances, always presents an active absorbing surface, and does not become disgusted with anything put in it.

Stimulants on the stomach are apt under these circumstances, to nauseate, and tend to establish that peculiar gastrorrhœa which so often follows these shocks.

In such conditions the stomach absorbs little or none at all, and if opiates are required, let them be administered hypodermically as this is the only way to obtain the desired effect.

During the last winter, I was called to see a lady who was suffering most intensely with a severe neuralgic pain in the epigastric region. She was quite susceptible to the action of opiates, and I gave half a grain of morphia every half hour until three doses were taken but without the slightest effect. Confident that the stomach had not taken up the morphia, I injected one-third of a grain of morphia into the inside of the leg and in five minutes she was perfectly free from pain. After the pain was relieved, the stomach seemed to resume its functions, and the morphia that it contained was rapidly absorbed, producing severe though not dangerous effects.

I firmly believe that the condition of nervous depression or shock produced by the excruciating pain so influenced the stomach as to hold in abeyance for the time its function of absorption.

In the days of slavery when negroes were comfortable and had kind masters who took care of them as one of their family, a mulatto boy was brought to my infirmary with a disease of one of his knee-joints which required amputation.

He had become use to his confinement, and although somewhat reduced, he was very well preserved. The double flap operation was made, arteries secured, and the stump left exposed until all oozing had ceased, when the flaps were brought together in the usual manner. The chloroform sickened him, and the stimulants which were freely used seemed to aggravate it. I was obliged to leave in haste, and supposed that his nausea would soon pass off. After I left severe pain in the stump came on, and morphia in a full dose was given by the house-surgeon. This only tended to increase the sickness of stomach.

I returned in about four hours when I found the patient in a wretched condition. Excruciating pain in the stump, considerable hæmorrhage; the dressings and flaps distended with blood, pulse feeble and one hundred and fifty a minute; incessant vomiting of viciated secretions. I immediately sent for some champagne wine, as he could not tolerate strong stimulants, but it did no better.

According to my view of his condition nothing could be done but first to disgorge the stomach. Ten grains of calomel in small

doses frequently repeated were dropped on his tongue in the course of three hours.

Before the powders were finished the vomiting had ceased, and the pulse was much reduced. After waiting an hour or two, a drachm of sulphate of magnesia in half an ounce spirits mendereri in equal quantity of water was given every twenty minutes until the bowels were moved. The amount of dark vitiated matter that was discharged was astonishing. This afforded him perfect relief; the pulse coming down to eighty, and of very good quality.

He was given milk and lime-water that night, and the next day he partook of a beefsteak, with good relish. While the calomel was being taken, I opened the stump and found no bleeding vessels, but only a general oozing from the cut surfaces, and most freely from the cancellated structure of the bone. The flaps were thrown open and filled with pounded ice, which not only stopped the bleeding, but also the pain, acting in the latter respect almost like an anæsthetic. When all was relieved, the flaps were brought together as before, and so well did the patient progress that the stump united by the first intention, and was not dressed for ten days.

It seems certain that this man would have died, without the calomel, in point of fact he was sinking in spite of the stimulants, counter-irrants etc., that were resorted to previous to its use.

This case illustrates in a most remarkable manner how this mucous engorgement may be induced by shocks to the system, and how it is aggravated by abuse of stimulants and improper medication, and also testifies most emphatically as to the terrible depression consequent solely upon this state of the stomach.

That this must be the case cannot be questioned. The patient was in good condition before the operation, appetite and digestion perfect; and so it was after he had been disgorged by the calomel. When this disgorgement was accomplished his pulse arose in fullness, was reduced in frequency, and the patient became quite natural without the use of any stimulants whatever.

Many other analogous cases might be related, but it is deemed unnecessary to occupy further space, when the above illustrates unmistakably the views advocated.

There are many cases of cholera infantum as it is commonly termed, in which very small doses of calomel act very happily, but this fact it is to be feared is too well known—or rather is being known—to do good in many cases; it is too generally given in all cases.

When the stomach and upper bowel are at fault, and the little subject vomits green vitiated secretions, calomel is appropriate. It relieves the stomach, and with it the general depression. The gastric functions being in a measure restored, the ingesta enter the bowels in a wholesome state not calculated to add to the existing irritation. But if the lower bowel is irritated, and mucous with specks of blood appears in the discharges, calomel aggravates the case—generally by exciting acrid secretions that scald the mucous surface already denuded of its epithelium.

The idea of gastritis which was so forcible impressed upon the profession by the eminent Broussais, and his followers, in the early part of this century, has prevented the proper use of calomel by a large number of physicians.

Gastritis is a very rare disease. It rarely, if ever, obtains unless induced by poisons, and it takes a more potent irritant than alcoholic stimulants to produce it.

There are very few if any cases of vomiting induced by strong alcoholic drink that are not attended by the vitiated secretion which characterizes engorged mucous membrane, and there are very few of these cases that are not most readily relieved by small doses of calomel frequently repeated.

Calomel, while it relieves the vomiting, prepares the secretory organs to pour out the alcohol with the assistance of salines, much to the relief of the whole system, and to the organs that would other wise have sustained serious injury.

Occasionally vomiting occurs from morbid sensibility of the stomach, but in such cases the peculiar gastrorrhœa spoken of does not exist. Fluids are thrown up just as they are taken—without much addition. In such cases calomel is not indicated.

2.—*Remarks upon Digitalis.*

The effects of digitalis having been studied almost entirely independent of those pathological conditions to which it is pecu-

liarly applicable; they arebut very imperfeetly understood, and in none of the many works on therapeutics can any proper information be gathered.

First as to its effects upon the nervous system.

In certain conditions of great nervous exeitement, sueh as mania; mania-potu, etc., its influence upon the nervous system, is most remarkably salutary. Under these eireumstanees a teaspoonful of the very best tineture may be given with impunity ever hour, until sleep is procured.

I have frequently used it in this way, and have never observed the poisonous effects as deseribed in books. Occasionally slight nausea has been observed, and with it some intermission of the pulse, but no digression of the heart's action. When the system is affected to this extent, sleep follows as a rule. The effects of digitalis are beneficial independent of its tranquilizing influence.

The secretions are promoted; the mouth and tongue become moist—and the patient awakes with a stomach capable of taking and digesting food.

A gentleman of middle age, of a highly excitable temperament, fell into the habit of the excessive use of alcoholic stimulants, until a furious delirium was induced. I saw him in consultation on the second day. He had been properly purged with mercurials, and I advised the tinct. digitalis in teaspoonful doses every hour. Unfortunately, some of his friends knowing something of the nature of the medicine, became timid and discontinued it after five or six doses had been given. The next day it was again urged, and was continued until sleep was procured, taking nearly one ounce and a half. The requirement of this large amount was attributed to the intermission in its use.

Generally not more than an ounce has been found necessary, when it has been administered; some anxiety was felt in this case owing to the large quantity given, but the danger was imminent. Sleep was necessary, else the patient would soon have sank from exhaustion.

No nausea, no irregularity of pulse followed. The sleep was tranquil, pulse and respiration natural. He would awake every few hours, call for his milk, drink freely, and fall asleep again. In this way he slept the chief part of twenty-four hours, when he

was left with intellect clear, secretions free, skin pleasant and stomach in excellent condition.

This one case selected from a number of similar ones, seems quite sufficient to illustrate the views advanced.

Digitalis is a distinct and strong stimulant to the muscles of the heart. In conjunction with veratrum viride it is very valuable in *feeble*, irregular action of this organ either with or without organic disease.

A gentleman, past middle age, of good habits, but leading a sedentary or rather a confined life, occasionally subject to attacks of dyspepsia, and at times suffering from palpitation of the heart, fell under my observation, and well illustrates the action of digitalis.

After partaking of a rather copious dinner, he was subjected to violent excitement, which brought on great excitement and irregularity of the heart's action. So much so as almost to interrupt the circulation through it.

He was seen the next day when the action of the heart was found to be so frequent and irregular that auscultation gave no signs.

The pulse was correspondingly frequent and irregular and thready, and the symptoms of heart obstruction seemed unquestionable.

The stomach was evidently suffering, this being evinced by constant nausea and great oppression. Calomel was administered in small and frequent doses, and followed by salines with some benefit. Stimulants were then resorted to but in vain. The symptoms grew worse. The lungs became enlarged, the face cyanosed, specks of blood were expectorated, the urine was suppressed; indeed death seemed inevitable. At this time my friends, Professors Richardson and Bemiss, were called in. Prof. Richardson asked why I did not use my famous digitalis, I replied that it had not occurred to me, as it was not a case of the kind in which I had had experience—but that I was satisfied that it was a stimulant to the heart, and was willing to try it.

One ounce of tinct. digitalis with twenty-four minims of Norwood's tinct. veratrum viride was ordered in teaspoonful doses every hour—its effects being closely watched.

An improvement was soon observed. The pulse became distinct, then slower and fuller, with it the color and respiration became more natural, and ere long the urinary secretion was freely established. The medicine was continued at longer intervals, and in about twenty-four hours the whole was taken. It was feared that there had been a rupture of some of the vessels in the previous excitement, but a careful examination showed that the heart was physically intact, and that all this disturbance and interruption of the circulation was caused by some nervous derangement giving rise to feeble and irregular action. It certainly appears that the digitalis stimulated the heart and the veratrum quieted its irregular action.

With this idea in view I have used it in other analogous cases.

A lady of sixty, of stout, robust frame, somewhat corpulent, had met with much trouble—had lost her husband suddenly with apoplexy, and had become very gloomy and despondent.

There was oppression of the stomach, loss of appetite, constipation, etc., and as I was told she suffered at night and sometimes in the day from suffocating spells, which I at first supposed to be of a nervous hysterical character, and accordingly gave Hoffman's anodyne, and I think assafœtida.

However, while attending her for the derangement of her stomach and bowels, I happened to see her in one of her attacks of suffocation. I found her pulse irregular and feeble, and every symptom of cardiac asthma. This the family assured me was the character of all previous attacks, though they had been usually much worse at night. Organic disease of the heart was feared, but auscultation revealed nothing save confused and muffled sounds.

She was ordered twenty minims of tinct. digitalis and three minims of tinct. veratrum viride to be given three times during the day.

The following day the heart was tolerably quiet, and the natural sounds quite distinct. As no paroxysm was threatened she only took it twice a day and in three or four days it was given only at bed-time. She was seen a few weeks after, and although complaining of what she termed a quivering in her breast, she acknowledged that a teaspoonful of the medicine al-

ways relieved it. She was allowed to renew it, but cautioned very strictly as to its use.

It not unfrequently happens that we meet in organic diseases of the heart with this same nervous derangement which causes similar engorgement of the lungs, accompanied by the same distressing symptoms, and yet when the heart is quiet, it will be found that the circulation is good, respiration easy, and the patient quite comfortable.

On examination, a murmur being found, the physician is emphatic in attributing the whole trouble to organic lesion.

The loudness of a murmur is no measure of the amount of leakage at the diseased valve. This latter can only be estimated by the consequences of the obstruction.

When there is no suppression of urine,—not much swelling of the feet, and the cardiac asthma occurs only when this excited and irregular action of the heart obtains, much may be done by quieting this complication, not only towards rendering the patient comfortable, but even towards prolonging life, for undoubtedly every attack of cardiac asthma by overloading the heart serves to dilate it, particularly on the right side, which brings about tricuspid regurgitation and jugular pulsation.

Not long since a lady of seventy years of age came under observation, and her case illustrates most clearly this point. She had had at various times, attacks of the cardiac asthma, which had brought her almost unto death.

When first seen the heart was quiet,—auscultation revealed a low murmur, but she was lying horizontally and breathing with perfect ease.

The digitalis and veratrum was given her, but in smaller doses than above mentioned, as she was quite feeble. One week afterwards, word was sent that she had not suffered since taking the medicine, was sleeping naturally every night. She has been seen several times since, and looks well—much improved in every respect, and has had no attack.

A word as to what is popularly called the cumulative property of digitalis.

I can candidly say that I have never in any of the cases in which I have used it, observed such effects as are attributed to this generally admitted peculiarity of cumulation.

However, having advanced the idea that under certain conditions the function of absorption of the stomach is for the time completely overruled, it may be well to say, that should digitalis be administered in large quantities when the stomach is so situated, it is not improbable that startling effects might follow when this function is restored, but most certainly this is not cumulation properly so-called.

It is only under such a condition of the stomach that I can possibly concur in such effects, and this rarely, if ever, obtains in these cases where its use is indicated.

ART. II.—*Report on a New Variety of Malarial Fever.* Read before the Greensboro Medical Society, on the first Monday in May, 1868: By T. C. OSBORN, M. D.

CASE I.—On the 4th of July, 1867, I was called to the "Stickney Place," three and a half miles west of Greensboro, to prescribe for Mrs. W., aged about fifty-five years, a citizen of Mobile, who had for several weeks been affected with jaundice, for which Dr. H. had advised a trip to Bladon Springs, hoping that a change of scenery, together with the virtues of the water there, would, in a short time, re-establish her health. Instead of obeying instructions, she continued on, up the river, and stopped three weeks at the residence of Mr. C. one of her near relations.

His place is situated immediately upon the south bank of a small creek, which meanders sluggishly through flat lands, three miles south-west of the Warrior river. It is proverbially sickly, being in the same region mentioned in my "Essay on a peculiar appearance of the Tongue in Malarial Diseases," published in the August number of the Western Journal of Medicine and Surgery for 1851, as the "head-quarters of malaria."

During her stay there she grew worse from day to day, had two or three tertian fevers, the cholemia deepening into a dark bronzed complexion, with loss of appetite, nausea, constipation, debility, pains in the head and back, hæmaturia, and a slight oozing of blood from the gums and fauces. Her friends now removed her to Mrs. S., and requested my assistance. I found her

with a low form of fever; quick, small, and frequent pulse; tongue bluish, thick, coated over the middle with a dirty fur, leaving clean margins, and deeply *crimped edges*; petechia and vibices scattered freely over the mouth and nose; hæmaturia; bronzed skin; and an uncontrollable dejection of spirits. The place she was now at has always been regarded as quite healthy.

The nausea, vomiting, and restlessness, were to all appearance the symptoms requiring the most energetic attention, and I treated them by repeated doses of calomel and opium, until the bowels became active and the dejections bilious. Afterwards the treatment consisted in quinine, cinchona, iron, acids, wine, baths, generous diet and cheerful associations; but nothing arrested the progress of the disease, and she died completely exhausted on the 8th, four days from my first visit.

This patient might not have recovered if she had gone to the springs as directed, but she committed a fatal error in remaining three weeks in a malarial district, even if her health had been a thousand per cent. better than it was.

In concluding this case, I desire to call attention to the *purpura hæmorrhagica* as a complication to be anticipated in the disease, and to suggest that the pathology of both are identical, consisting in a depraved condition of the blood, and ganglionic system of nerves. These, however, are after-thoughts, for I must confess that it was not until the occurrence of the third case of the kind, that I began to regard it as a *distinct variety of fever*, and to carefully observe its train of morbid phenomena.

Case II.—On the 26th of September, 1867, I visited Mr. J. L. C., a planter, aged fifty-five years, tall and spare, dark hair and complexion; for many years affected with hypertrophy of the heart; habitually saturated with malarial infection; two years since had an attack of hæmaturia of several weeks duration, but without at any time taking him away from his ordinary routine of duties.

For some days prior to my visit he had quotidian returns of fever, but until to day no marked violence had been observed.

I found a low form of fever; quick, frequent, full pulse; enlarged spleen; *nausea*; restlessness; intense thirst; copious *hæmaturia*; *dark bronzed skin*; tongue coated, margined and crimped; constipation; and pain in the head and back. On a careful in-

spection of the urine, after allowing it to stand a short time, it was thick, dark-red, with small clots at the bottom, nearly without odor, and discharged in a full stream every two hours.

Ordered calomel and opium morning and night; quinine in full doses every two hours; blister to the abdomen; wine in soda water; and for the kidneys, tincture of krameria *pro re nata*.

27th. Remained with him all night; no better; no discharge of urine since midnight, and the catheter found none in the bladder. Warned the family he could not live longer than forty-eight hours.

Omit krameria and opium. Continue calomel, quinine, and wine in soda water. Ordered spirits nitre in half ounce doses every three hours; warm bath; and gruel enemata.

28th. Remained all night; no better; getting deaf, drowsy, and indifferent; bowels acting freely, the dejections copious, consistent, and of dark ash color; no urine; skin very dark bronze, dry and feverish; tongue dry and fissured; blister filled with bloody serum.

Omit quinine, and substitute bark, wine, and elixir vitriol; brandy freely; beef-tea by enema; ice water to drink, and ice to the head.

29th. Remained all night; he is sinking. Death occurred about breakfast time, in profound stupor, but no convulsions, as I feared would be the case, from uræmia.

For twenty three years I had uninterruptedly treated him in all his most violent attacks of illness, and for three years past had called him a "touch-and-go-case," meaning by the term a great want of recuperative energy in the system. On his plantation there were never less than one hundred persons, white and black, none of whom ever escaped a season without one or more spells of intermittent fever, which, gradually undermining the constitution, left them, as we were in the habit of saying, in the "touch-and-go-condition;" but the proportion of deaths to the whole number of cases occurring during twenty years did not amount to more than one-half of one per cent.

This locality is nine miles a little south of west from Greensboro, and is upon the line of division between the prairie and sandy lands north and south, and at the junction of the hill and flat land east and west.

I mention these minute facts here to show why I have persistently called it the "head-quarters of malaria," and because it was there that I first began to observe and realize *the importance of the peculiar appearance of the tongue, as a pathognomonic objective indication of malarial infection*; and, I will add, "that time and thousands of repeated observations have continuously enlarged my estimate of its unerring fidelity." I hold it responsible for the administration of quinine, and whatever the disease may be, or however difficult it may be to diagnose its true character, *the margined, and crimped edges of the tongue gives unequivocal evidence that the cause is to be attributed to malarial poisoning.* This is strong language, but it is just, because I am sure of my proof.

Case· III.—At the time I attended Mr. C., in his last illness, my health and energy were remarkably good, and I had not been troubled with fever since 1862; but, as I confidently predicted, in remaining every night with him as principal nurse,—very soon afterwards labor became more and more irksome, without any decided feelings of distress, until the 15th of October—nearly a month from the time of infection—when I fairly broke down and took to bed. My skin was deeply tinged; urine hæmaturic; bowels costive; loss of appetite; pain in the lumbar region; with uncontrollable disinclination to mental or physical exertion. Tongue coated, margined and crimped; spleen natural, and mind disturbed by dreams; but there was neither nausea nor fever. The attack was beyond question exceedingly mild owing to my previous good health, but certainly should be classed with the *new disease.*

I was deeply interested in the peculiarity of the urine, which seemed to be assuming an epidemic character, and occupied much of my time in examining it chemically, and microscopically. This occupation served also to divert my mind from the threatened dejection, there being at no time enough debility to prevent my sitting up, or walking about the house. In quantity the secretion rarely varied from a healthy standard, but all its other features were continually changing. At one time it would be a true hæmaturia with albuminous deposit, at another amber-colored, and full of dumb-bell crystals beautifully distinct, and again limpid, with a splendid iridescent pellicle floating upon the sur-

faec; all, too, under the same diet—boiled milk and light bread —from day to day, the ease through.

When it was hæmaturic, blood dises and tube easts were more or less abundant in the field of the microscope, and albumen and elots would fall to the bottom of the vessel. I mention these particulars because several intelligent physicians have expressed doubts as to the bloody character of the secretion. I will, also, whilst thus digressing suggest that the term "dumb-bells," as applied to some of the crystalized oxalates, is a misnomer. It seems to me the name "hour-glass" would be more appropriate, because this is the unvarying appearance they present whilst in a fresh condition, and it is not until the crystal is getting old and dry that the sharp outline is removed, which gives it the form of the dumb-bell.

Only once did the urine fail to redden litmus paper, and that was during the prevalence of the triple phosphates; it was then slightly alkaline.

The special gravity varied in the different specimens from 1010 to 1030; being highest in the hæmaturic, and lowest in the phosphatic. Sometimes the changes would follow each other in rapid succession during the same day.

Under these ever changing conditions it was extremely difficult to decide upon an appropriate medication, and the consequence was I placed my trust in the regimen, and the conservative power of nature. For several alternate days I took twenty grains of quinine in broken doses, and distinctly felt its curative influence.

From the following aperient mixture, I derived satisfactory actions from the bowels whenever necessary; viz:

℞—Decoction of senna, f ℥ix; mannæ, ℥i;
Spts. ammon arom, ℥ss; tinct. jalap; fluid ext. sennae
Syr. buckthorn; tr. hyosciami;
Syr. simp.; tr. cardamon comp. aa. ℥i.

Mix. Dose, one or two ounces at bed-time. This would give one free alvine dejection next morning, and leave the bowels feeling comfortable for the next twenty-four hours.

The warm-bath at night constituted my greatest comfort, and after remaining in it for one or two hours, my feeling would be

delightful, sleep coming without an effort, whilst the skin continued soft and perspirable during all next day. Perhaps it would be well to add that the baths were made strongly alkaline by the addition of a gallon of ley-water each time.

No doubt can be entertained that, if I had not rested so early from my professional duties, the violence of the disease would have been greatly increased, and, on the other hand, if I had submitted to a more rigid discipline the duration might have been materially shortened. As it was, my health did not get re-established until late in January.

Case IV.—Miss Jennie McR., aged twelve years, sprightly, for many months affected with hebdomadal returns of intermittent fever, under which her complexion had faded, and the spleen become enlarged and indurated. She continued, however, at boarding-school in Greensboro, rarely ever missing a recitation, until the 22d of October, 1867, when a severe paroxysm came on, followed by high fever, which passed off in a free perspiration early next morning; but at *ten* o'clock A. M., the chill returned with marked violence, accompanied *almost instantaneously* by a dark bronzed suffusion of the surface, hæmaturia, nausea and vomiting, pain in the back, incessant thirst, restlessness, sighing, quick, frequent and feeble pulse, and a low form of fever. I saw her at noon, and, in addition to the foregoing symptoms, found the tongue thick, blue, furred over the centre, with broad margins, and well defined crimped edges.

An emetic of antimonial wine was immediately given, and its action promoted by draughts of warm chamomile tea, until bile was ejected.

Three hours later a full dose of calomel and opium was administered, and ordered to be repeated every six hours. Mustard-poultice to the abdomen; hot foot-bath; ice to the head; iced lemonade ad libitum.

As she was but a few squares from me, I saw her several times a day, and remained in the house with her every night, but my record is limited to morning and evening observations.

24th. Morning. No better. Passed no urine since yesterday afternoon; inserted catheter and drew off a gill of bloody urine; bowels have not acted; nausea and vomiting distressing; no

medicine retained; skin still dark and dry, but not above a natural temperature.

Ordered one-eighth grain sulphate of morphia by hypodermic insertion; calomel in five grain doses every six hours; enemata of infusion of capsicum repeated until the bowels acted freely; blister on the abdomen; and a variety of simple expedients to check vomiting, if the morphia failed to do so.

Evening. Same; no passage of urine; drew off half a gill of *clear* urine. Ordered iced soda-water, with a little wine in it to prolong effervescence. The bowels are acting well, and the evacuations consist of old solid fæces. *Blister filled with bloody serum.* Give quinine in twenty grain portions, with beef-tea by enema, every six hours; mucilaginous poultice to the abdomen; warm-bath; repeat morphia by hypodermic injection.

25th. Morning. Better; pulse 100, quick and soft; tongue clean, thin, and pale, but still margined and crimped. *Nausea arrested perfectly* after second draught of soda-water; bowels passing large quantities of semi liquid fæces, having a bilious appearance; slept two or three hours during the night; *skin cleared up*, and lips have a healthy glow; drew off half a gill of clear urine. Continue treatment.

Evening. Same; drew off an ounce of clear urine; bowels acting well; spirits reviving. Continue beef-tea and quinine by enema every three hours; iced sangaree at pleasure; calomel in two grain doses every six hours; nutritious diet.

26th. Not so well; disposed to be fretful and taciturn; slept some hours last night; no appetite; thirst incessant; pulse 100, quick, and feeble; no feverish heat; drew off half an ounce clear urine; bowels less active.

Ordered, pulverized nitrate of potash grs. iii. in a gill of water-melon-seed tea; milk punch freely. Continue calomel, quinine and beef-tea; warm-baths; iced drinks, and feed with rich soups.

Evening. Pulse 120 and very feeble; bowels act about every six hours, the dejections looking bilious, but not staining white linen yellow; drew off an ounce of clear urine; thirst continues.

Ordered ten drops mur. tr. iron every four hours, alternated with five drops of turpentine. Discontinue calomel, quinine, and nitrate of potash, and give milk punch frequently.

27th. Morning; disinclined to move or talk; deaf from quinine; rejects tincture of iron. Ordered decoction of bark, with nitro-muriatic acid every five hours. Drew off half an ounce of clear urine.

Evening; symptoms of prostration growing more decided. Continue tonics and stimulants.

28th. The mind seems to be more and more in a dreamy state, and if aroused from stupor utters delirious sentences. Urine as before. Continue treatment.

Evening; evidently sinking, and died at ten o'clock P. M., in profound stupor, which was increased by a slight convulsion at eight o'clock.

Dr. F. M. Peterson was associated with me in this case after the second day, and there was a marked concurrence in our impressions that death seemed to depend upon a deficient vitalizing influence in the brain, owing to cachemic blood; and that the first link in the chain of morbid associations consisted in the defective energy of the sympathetic system of nerve. There was not a symptom which we attributed to either congestion, or inflammation; all were apparently nervous.

We discussed uremia, but rejected it, adopting *cachemia* as the most expressive term, and since then constantly call the disease by that name.

It is noticeable that the cholemia, hæmaturia, and nausea—the diagnostic features in this disease—*were all completely removed* by treatment, three days before death, yet there was no recuperation from the depressing influence of the poison, and a vitalizing blood to the brain really seemed to be the one great necessity in the whole course of the disease. Indeed this case is a true representative of the class, and from it we derived more insight into the pathology than we could have done by all the books extant. Opium must be injurious by depressing the brain, and I shall avoid it in the future.

The continuance of the disease through the winter and spring months is calculated to alarm us, and give strength to the suspicion that it will constitute the prevailing form of malarial fever during the coming summer and autumn seasons. This, however, is a digressive after-thought.

Case V.—Travis R., aged ten years, remarkably tall for his age, resides five miles north of Greensboro, in the vicinity of Big Creek Swamp, has been affected with chills several times a year, all his life, and has an enlarged spleen of six years' standing.

Had a severe chill on the 8th November, 1867, and immediately after it the skin turned yellow, and the urine became thick and red as venous blood.

There was also much nausea and vomiting; acute pain of a neuralgic character in the right hypochondrium; aching in the lumbar region; low form of fever; thirst; restlessness; and constipation of the bowels.

The father of the lad gave me the previous history of the case when he visited me for assistance.

He also brought along a two ounce vial full of the hæmaturic liquid which I reserved, and sent some weeks later to Mr. Lupton, the accomplished Professor of Chemistry, in the Southern University, for examination.

Being too unwell to take the case, Dr. Parrish kindly gave it his attention for two or three days, when it fell into the hands of my son, Dr. J. D. Osborn, who had considerately come to keep my patients from worrying me whilst I was sick.

In his report on this disease read at our last meeting, he has given an outline of the treatment of R., which differs from what has been stated by myself, only in the administration of honey-bee tea as a diuretic.

The case recovered after a tedious duration, health remaining frail until late in the following March. I attributed the recovery mainly to the lateness of the season, and consequent decline of temperature, and think I am sustained in the opinion by the recovery of other similar cases during the winter months.

Dr. J. D. Osborn brought home another bottle of the hæmaturic urine in this case, which was submitted along with the first to Mr. Lupton, and by reference to the exhibit, although the liquids were some five or six weeks old, there is sufficient evidence of a considerable admixture of blood in the composition of the urine tested. Indeed, the Professor concludes his report in the following words: "The liquids are a mixture of blood and urine."

This report I trust will be sufficiently convincing to those who are

at all skeptical as to the hæmaturic character of the secretion, and for that purpose I have embodied it in this paper, where it may be consulted by any one sufficiently interested in the history of this new and fatal malady.

Two liquids submitted by Dr. James D. Osborn for examination, December, 1867:

No. 1.	No. 2.
1.—Dark or brownish red liquid.	1.—Light or cherry red liquid.
2.—Ash-colored precip. at bottom of bottle.	2.—No precip. at bottom of bottle.
3.—Offensive smell of putrid urine.	3.—Offensive smell of putrid urine.
4.—Blood corpuscles detected by microscope.	4.—No blood corpuscles detected.
5.—Strongly alkaline (ammonia evolved.)	5.—Strongly alkaline (am. evolved.)
6.—Hydrochloric acid caused evolution of carbonic acid, showing presence of carbonates.	6.—Hydrochloric acid caused evolution of carbonic acid, showing presence of carbonates.
7.—Heat caused coagulation, the liquid assuming a muddy brown color showing *albuminoid sub.*	7.— do.
8.—Nitric acid caused coagulation.	8.— do.
9.—Hydrochloric solution and chloride barium, white precip. showing presence of sulphates.	9.— do.
10.—NO_5 solution and nitrate of silver, white precipitate, showing presence of chlorides.	10.— do.
11.—Acetic acid and ferrocy. of potas. precip. showing albuminoid sub.	11.— do.
12.—Acetic acid solution on addition of potas., and boiled, does not coagulate, showing fibrin *perhaps.*	12— do.

The liquids are a mixture of blood and urine.

N. F. Lupton,

Prof. Chemistry Southern University

Greensboro, Ala., Jan., 1868.

Case VI.—On the 26th of December, 1867, I was called to see Mr. D. G. S., a planter, aged about forty-five years, bilious temperament, enlarged spleen, extremely susceptible to malarial infection, chills and fever being the prevailing form of disease.

On the 23d he had a severe chill in the morning, followed by very high fever, which passed off on the next forenoon, leaving him able to go out and attend to his ordinary duties.

On the 25th the chill returned with increased violence, followed

by an instantaneous cholemic discoloring of the entire surface, a low grade of fever, hæmaturia, nausea and vomiting, thirst, restlessness, and pain in the head and back.

It was noon next day when I saw him, and the fever was beginning to abate. His skin was the darkest bronze that I have yet seen. No urine had passed since the evening before, and none was found by the catheter in the bladder. The pulse was frequent, quick, and full; tongue coated, margined, red, and crimped; respiration irregular and sighing; intense pain in the head with a disposition to stupor and delirium.

At one o'clock, twenty minutes after the administration of half an ounce of spirits of nitre, the skin became moist, and he expressed himself much relieved. Ordered warm bath at once; eight grain doses of quinine every two hours; ten grains calomel at bedtime; and milk punch freely.

For some hours he slept quietly and seemed to the friends to be doing well, little or no medicine having been offered to disturb him; but at dusk it was plain that he was sinking, death occurring near midnight. The weather was quite pleasant.

The residence of this patient is eight miles north-west from Greensboro, on an elevated sunny ridge, two miles south of an extensive creek swamp, and had always been regarded as quite sickly.

Mr. S. had for several years been afflicted with torpor of the liver and bowels, and had taken many medicines for their relief; so that, upon the whole, he was a capital mark for the malignant shafts of this new variety of malarial fever.

Case VII.—Miss Minnie R., aged fourteen years, well grown but immature, for twelve months afflicted with frequent returns of intermittent fever, enlarged spleen, and sallow complexion, resides six miles north-east of Greensboro, on an elevated sandy and clayey ridge, one mile east of Big Creek bottom, where chills prevail at all seasons of the year.

I visited her on the 16th January 1868, and found a low form of fever; quick and frequent pulse; tongue coated, margined, pale and crimped; deeply bronzed skin; hæmaturia; nausea and vomiting; pain in the head and back; and restless, sighing respiration. The chill had occurred early in the forenoon, and was

followed almost instantly by cholemia, and hæmaturia, frightening the family by their rapidity and intensity.

Blue mass had been given, and the bowels were responding when I arrived. The weather was freezing cold, and ice was abundant in the yard.

Ordered the warm-bath; calomel in five grain doses every four hours; beef-tea freely; and quinine in full doses every two hours as soon as the fever passes off. For the nausea and vomiting, wine in acid soda-water was given with the happiest effects.

17th. Better. This is intermission day. Skin cleared up perfectly; urine clear and copious; bowels well opened, and dejections tar-like; pulse 100, quick, and unsteady. Tongue cleaning off.

Treatment: Calomel and Cayenne every eight hours; quinine and Cayenne every two hours; lemonade freely; blister the abdomen; nourishing diet, and milk punch at pleasure.

18th. Doing well; missed the chill; blister full of bloody serum; urine clear and copious.

22d. Convalescent—dismissed.

This case lingered in feeble health four or five weeks, but under the use of powdered cinchona, elixir vitriol, and wine three times a day, the recovery was perfect, the enlargement of the spleen even disappearing. Here again I gave much stress to the beneficial influence of a low temperature.

Case VIII.—I visited, on the 8th of February 1868, Mr. J. J. B., a planter, aged about forty-five years, who resides three miles a little west of south from Greensboro, in a flat and moist prairie locality, with switch cane marshes within a mile west of it. He has had frequent returns of chill for several years, and an old standing enlargement of the spleen.

For the last two weeks, in addition to tertian fevers, he has had cholemia, and hæmaturia mildly, without nausea or any other distressing accompaniment.

As he was under the influence of mercury, I prescribed tinct. cinchona and nitro-muriatic acid combined, and he recovered in the course of a short time, and has had no return of chills since that date, which is for him rather remarkable.

Case IX.—Miss K , aged nineteen years, eight miles north of

Greensboro, in the hills, where she had but recently removed from the vicinity of Mr. Charles's place, and where her health had been greatly undermined by repeated attacks of intermittent fever.

Saw her on the 11th February, 1868. She had been sick eight days, and Dr. S. had administered calomel until she was ptyalized. All this time the skin was bronzed, and the urine blood-colored. I found her exhausted; restless; vomiting green fluids; with diarrhœa and griping pains in the bowels. The tongue pale, margined and crimped; pulse 120 and feeble; and the respiration irregular and sighing.

By the direction of the Doctor, she was taking half a grain of opium two or three times a day for the relief of the diarrhœa, and to procure sleep, but it failed to accomplish the desired purpose.

Ordered discontinuance of opium; give warm alkaline bath; nitrate of potash in Buchu tea; five grains calomel with one grain Cayenne night and morning; blister on the abdomen; iced soda-water; and oleagenous mixture.

Owing to the quantity of opium already taken, and the impossibility of restraining the friends from repeating it for the relief of pain, I gave an unfavorable prognosis. She died on the 14th, three days after my first visit. The weather was freezing cold at the time, and under ordinary circumstances, ought to have aided materially in curing the case, but in addition to the narcotised brain, her health had been terribly undermined by long continued malarial saturation, and consequently all hope in medication, or the conservative powers of nature was entirely out of the question.

Case X.—James B., aged eight years, son of the patient mentioned in Case VIII, has been affected with chills repeatedly, and his spleen is greatly enlarged. On the 17th of April, 1868, he was seized with a severe chill, followed quickly by a low fever; cholemia; hæmaturia; nausea and vomiting.

I saw him on the 19th, and found a pale, furred, margined, and crimped tongue; frequent, quick and feeble pulse; bronzed skin; hæmaturia; low fever; loss of appetite; vomiting a greenish fluid frequently; cough, and greenish expectoration; pain in the head and back, and intense thirst, and restlessness.

Ordered calomel in three grain doses, with Cayenne every six

hours; quinine and Cayenne every two hours; warm alkaline bath; fluid extract of Buchu three times a day; and soup diet in which Cayenne was freely mixed.

This treatment was continued with little alteration during the progress of the disease, until the 29th, when I discontinued all other medicines, and ordered fluid extract cinchona, with nitro-muriatic acid, three times a day, and the cold shower-bath after a light supper every night. A few days later, the news came from the father that the bath was performing wonders for the little boy. He is quite convalescent.

Remarks.—The foregoing report comprises all the cases of this malignant disease with which I have been associated, since it has assumed a sort of epidemic individuality. Here and there, in the several locations I have taken, during the twenty-eight years of my professional career, it has occurred to me to see, now and then, after long intervals of time, isolated instances having the same general features and results, but, classing them together under the congestive form, I failed to recognize the important position, in the family of malarial fevers, to which they were unquestionably entitled. That this disease has a specific pathology, I am fully prepared to believe. In a conversation with Dr. Michel, of Montgomery, where the same disease prevailed perhaps more extensively than here, he related a case in which a *post-mortem* examination was made, and in which there were neither traces of congestion, nor inflammatory action sufficient to account for the fatal result.

In no one of my cases was it practicable to inspect the body, but, if I might presume to trust my convictions of its pathology, unless we should dip into the ganglionic system of nerves, and note the foot-prints of the destroyer in that intricate labyrinth, we never expect to find much in the way of morbid anatomy to satisfy us as to the cause of death. I have never been able to diagnose either inflammation or congestion in any one of my cases The source of death seems to me to begin with the loss of vitality in the blood, which is itself dependent upon a poisoned condition of the sympathetic nerves, or ganglions—and the cerebro-spinal sytem is the first to give way, wanting its appropriate stimulants, healthy blood.

The name, "cachemia," which we have given the disease, indicates our belief in its humoral nature, and this belief is amply sustained by the only necroscopy that has been so far performed.

Simultaneously with its appearance in this vicinity, it was announced also in Tuscaloosa, Eutaw, Selma, and Montgomery, and the rumors that reached us represented the percentage of mortality equally as great as ours, in each of these places. Up to this date neither negroes nor mulattoes have been attacked by it, thus giving it a shade of resemblance to yellow fever—indeed it has been called "*cane brake yellow fever*"—from which it differs very widely in its pathological character, having no symptoms that can be correctly ascribed to inflammatory action.

Thus far all ages, from eight to fifty-five years, seem equally liable to its attacks, and little or no preference has been seen for either sex. But in every case, except my own, its victims were selected from amongst subjects worn down by previous invasions of intermittent fever, and in nearly all there was long standing enlargement of the spleen.

In reference to the treatment, I can only say that my hopes are based upon quinine, calomel, Cayenne, and the alkaline baths, repeated freely and frequently, until the disease is brought to bay, and then the mineral acids, and the cold shower-bath will materially assist the recovery. For the nausea and vomiting, soda-water in effervescence promises more than any other remedy.

Blisters are perhaps harmless, but do not deserve especial confidence. The same may be said of diuretics. Opium is positively injurious, no one of my cases having recovered where a second dose had been administered. Indeed I believe that *all* narcotic and sedative medicines are decidedly inappropriate.

If an alkaline remedy should become necessary, I would in future select it from one of the preparations of ammonia, or potash; having seen the prompt return of hæmaturia, under eight grains of bicarb. soda, in hop-tea, for the relief of urticaria during convalescence.

The disease having prevailed, though in a much milder form, through the winter and spring months, we ought to expect it to assume greater frequency and malignancy in the coming summer and autumn seasons.

In the performance of this labor, I have been actuated solely by the desire of pointing out these dangerous places along the route upon which the inexperienced are most likely to be wrecked, and of suggesting only such information as will most certainly enable others to avoid them.

In conclusion, I regret that the duty thus assigned, by the regulations of our society had not fallen into abler hands, and so been performed in a better manner.

ART. III.—*A Record of two Singular Cases, in which the positive Diagnosis is still in doubt:* By WM. MASON TURNER, M. D., Philadelphia.

THE following record may prove interesting to the profession, inasmuch as the cases presented were singular in several features, as regards termination and diagnosis especially.

CASE 1.—Some ten months ago I was summoned to see J. F., a little boy, about seven years old, who, his father informed me, had something the matter "with his privates." I found my little patient running about and playing vigorously, certainly good evidence that he was not suffering any pain, be his ailment what it may. He was a very nervous child, and much difficulty was experienced in making an examination of the parts—in fact, the examination was not minute, and anything but satisfactory. I found the scrotum enlarged considerably on the left side. The skin on the right side was not tight, but was flabby and wrinkled. Both testicles high up, could be distinctly felt. This swelling to the touch, seemed more like a hard body deep in the scrotum, over which the skin of the scrotum had contracted, than anything else. It seemed likewise, that the linings of the scrotal sac had partaken too, of this contraction.

This swelling was on the left side, circumscribed in a marked manner and was situated at the base of the bag. On the same side lying directly along the line of Poupart's ligament, was a long (certainly *two inches*) irregular prominence, resembling a large weal more than anything else to which I can liken it. It was about the size of a man's little finger. But there was no

swelling in the line of the canal indicating a hernia. On account of the swelling in the scrotal sac, and by reason of the child kicking and squirming, I could not determine much, in regard to the condition of the abdominal ring. This long transverse swelling added considerably to my annoyance in the matter of the testicle. The parents told me that this upper protuberance had come suddenly—that is, on dressing the child, in the morning, nothing unusual could be seen—and on undressing him in the evening (of the same day,) they had noticed the enlargement.

On passing the finger along the line of the swelling, it seemed to be nodulated in its character. I suspected adinitis, but its history contradicted me. It was too sudden—and we seldom see adinitis in such young children, or in children at all. There was no redness about this swelling, or that in the scrotum—and no pain in either, even on considerable pressure. Coughing gave no impulse.

On examining the scrotum, with the light, I detected a hydrocele, but it was very small—did not flow about in the tunica vaginalis at all, but seemed to be held in a small sac, attached to that lining membrane. There was no doubt in regard to the presence of a hydrocele; but to satisfy myself beyond all question, I punctured the scrotum over the swelling here and there with a fine cataract needle. *Water*, not simply serum—oozed out. I practised this pretty effectually, but it did not have the desired effect of emptying the sac.

Now, the history of this case was briefly this: Some three weeks before, the father was romping with the child on a bed, tossing him over his head, etc., but he positively asserted, that the child was not hit accidentally about the testicles, nor had he fallen so as to injure him in that region, and certainly I do not think that there was much liability to injury in thus playing, for it was on a large feather bed, and the father was in his stocking-feet. Three days after this, a swelling was perceptible in the scrotum, but the child did not complain of it at all. It gradually increased, so that the little fellow walked in such a manner as to avoid pressing on the bag. About eight days after this, the swelling along the line of Poupart's ligament came *suddenly*; but of this likewise, the boy did not complain, but continued to play as usual.

The parents were wealthy people and thought a good deal of this boy. They wished the defect, or disorder (or whatever we might choose to term it) remedied at once, and remedied to preclude, beyond a peradventure, its return. They insisted somewhat importunately, and certainly annoyingly, on knowing what was the matter! As I did not know, I could not tell them, and yet I feared to let them understand, that I myself was in the dark So with a non-committal and a self-assured air (far from felt!), I had recourse to technicality, and told them all about the *hydrocele*—the different sacs, etc., etc. This is not my custom, I would have the readers of the Journal to know—but I was determined at all sacrifices to hang on to the case which was so interesting, so puzzling, and to see its termination. To that end, I determined to *share responsibility*. So, after, in a mild way intimating the probable gravity of the case, I suggested a consultation with my esteemed friend, Dr. Horace Evans, of this city, who was a relative to the family in question. My suggestion was seized upon, and, after directing comp. iodine ointment to the transverse swelling, a cold lotion and a suspensory bandage to the lower, I met Dr. Evans in consultation on the next day.

The Doctor was puzzled too. He agreed with me as to the presence of the hydrocele—but was surprised at its singular nature—its certainly *unlooked-for* character. In regard to the upper ridge or weal, he said frankly he did not know, nor could he imagine, what it was. However, it was determined to continue the local iodine treatment to the upper swelling, and to combine with it, the exhibition internally, of Lugol's solution. In regard to the hydrocele, it was settled between us that an operation was demanded, inasmuch as the sac was perceptibly increasing each day.

In a few days I operated for the radical cure—by the old Arabian (Potts' Modern) method of puncture—and seton. Chloroform was contra-indicated, and the difficulties met and overcome in this trifling operation, can be imagined better than described. However, the operation was performed, the sac emptied, and the seton left in for two days. At the end of that time, judging that adhesive inflammation had taken place, the silk was withdrawn. Cold lotion of tinct. iodine (very small quantity), druggists'

alcohol and water, directed to be applied, and suspensory sling continued. All went well with the scrotum. It rapidly assumed its normal size, and then on an examination I discovered a hard tubercle, connecting, it seemed, with the transverse swelling on either side, protruding slightly through the lower ring of this same left side. *It was a hernia.*

The child was so exceedingly nervous that I could make no effort at reduction. I was tortured too, still about this swollen ridge, and so was Dr. Evans. What connection could *it* have with the hernia? A vexatious question to us! However, we appointed a day, when we should make an effort at reducing the hernia, which both of us agreed, existed. I was late at my appointment, and when I entered the room, the Doctor—already there—smiled with a quizzical, non-plussed air, as he said:

"The case is decided, Doctor, look for yourself."

I did look. I was astounded. There was no *swelling*, *transverse* or *otherwise*, and there was no *hernia!* The abdomen was as white, as smooth, and as level, as on the sound side, indeed, both sides were sound now, and there was no perceptible difference between them. On questioning the mother, she replied briefly: that when the child went to bed the night before, the swelling and the hernia *were there;* when he got out of bed in the morning, *they were not there.* Now, what *was this swelling*—what, a correct diagnosis in the premises?

Case II.—I was consulted some four months ago, by an elderly lady, of this city, in regard to an affection of her ears and throat. She had been previously under the treatment of some of the most eminent physicians of Philadelphia, and without success. A glance at the patient revealed that she was very anæmic, and that her nervous system was prostrated. She wore an anxious, troubled look, and could not control her emotions. I examined her ears—there was nothing wrong. She had been deaf, it is true, from childhood, but that condition was a sequel of scarlatina. I examined her throat. The walls were pale, and flabby. It looked to me as the throat appears in commencing laryngeal phthisis—cords all right, but pale. She complained as follows: she had, *all the time*, a terrible ringing in

her ears—at other times it seemed also like a hundred carpenters were sawing away at her head—again the mournful dropping of water—or the sighing of a low wind—again like hammering—again like wagons rolling over a rough pavement—again like bees singing—again like the gurgling water, *ad infinitum ! !* From these symptoms she has not been, she assured me, free for *ten minutes*, since her "change of life" began, *now six years ago.* Every month the symptoms are aggravated—but they do not go away. The noise is so terrible at times, that she feels as if she would prefer to die, than to live such a life.

In regard to her throat—she says she feels at times as if she should choke, but not with the old *globus hystericus.* She says a large ball gets first under one jaw, and then under the other, and finally settles in the middle of the throat by the *pomum Adami.* She says she can *swallow* it, by hurriedly taking a drink of water, but that it comes again! Everything she swallows, of late, leaves that impression, and she insisted so much that some foreign body was really there, that I showed her her throat one day with the mirror. Still she is not convinced.

I directed first for this lady the following:

℞. Ext. valer. fl.....ʒij.
Tinct. castor and tinct. cincho. Co. .....aa ʒiss.
Morph. acet..... grs. iii.
Aqua menth. and syrup sacch.....aa ʒ ss.
M. S. A tablespoonful at bedtime.

℞. Podophyllin.....grs. i.
Ext. Hyoscy.....grs. viii.
M. ft. Mas. Divide in pill No. viij. S. Two every other night.

This treatment was continued one week, with the effect of getting the bowels in good condition—thoroughly arousing the secretions, and securing sleep.

The effect of the opiate soon wore away. It was changed, and the substitute for a short time acted well. I then directed as follows:

℞. Quinine sulph..... ʒ ii.
Tinct. ferri. chloride.....ʒ iss.
Syr. sacch..... ʒ iiiss.
M. S. A teaspoonful twice a day.

The lady improved under this treatment for a month. I did nothing whatever for the ears—but brushed the throat out occasionally with a strong stimulant wash.

There commenced in rapid succession, a series of symptoms, which indeed it were hard to describe intelligibly. But the prominent and the most annoying of them was a "tumbling in her stomach." But her stomach, according to her location was directly over the uterus. I had long suspected, that this organ was at fault—but up to this time, I have been unable to detect any uterine disease or disorder. Strange to say, for the last month or two, she has had a regular catamenial flow—as much as ever—though she has not menstruated before, *for seven years.* This discharge instead of relieving, exaggerates the ear and the throat symptoms. The treatment at present, is *tonic* and *alterative*, and there is no success attending it, thus far. Again, I ask, what is this—the correct diagnosis?

These two cases as above recorded, have puzzled some of our most learned physicians in this city—and I here give them record, with the hope of bringing out some suggestion, or inferences from those of our profession of the South. Any such suggestion will be looked for with interest by more than myself.

ART. IV.—*Diseases of the Nervous System:* By JOHN W. CALDWELL, M. D., Demonstrator of Anatomy, New Orleans School of Medicine, New Orleans, La.

DISEASES of the nervous system are particularly interesting, and demand special attention, whether we view them in the light of their frequent occurrence, or of their often obscure pathology. Standing as the nervous system does, midway between the visible and the invisible, the tangible and the intangible—itself material, but acting as the representative, the agent, indeed the indispensable instrument of the immaterial—we need not be surprised that we are unable to trace, through the intricate mazes up to their very source, the innumerable abnormalities to which it is but too often subject. How little and how vague is our knowledge in this department, none are more conscious and none

more deeply deplore, than those who have made these diseases a special and earnest study; and every physician of experience must have been astonished at the large proportion of the cases which are to be included within this class.

The term *nervous*, is used often in a vague manner; it is therefore necessary to attach to it some precise and definite signification. It is a common language applied to those, whose nervous systems are easily thrown off their proper balance, and who under even slight existing causes, evince abnormal nervous phenomena. In this class may be included infants and young children, weak, delicate, anæmic persons of both sexes, but especially females, and particularly those about the age of puberty. These are all called nervous persons—and the character of their nervous systems may be stated as highly sensitive, delicate, and mobile. And I am inclined to believe that this is not so much the result of an original organization, as it is of surrounding circumstances. In these persons there is not necessarily an exquisite nervous organism—a finely developed brain, capable of grand reasonings and mighty conceptions. But it seems to me that the frequent irregularities are due to the changed conditions to which it is at these times subjected. These cases are generally found among those persons whose circulation is feeble, who are not possessed of rich and healthy blood—but are anæmic, poor in blood, and with circulation sluggish. The mind is not strong and vigorous—nor the judgment clear and well balanced—nor the will powerful and overwhelming. The emotional element is the one most fully developed—and oftentimes overrides the judgment and controls the will—and thus we may account in a measure for some of the phenomena of hysteria and other abnormal conditions. This is *one* of the *nervous* characters, and it is the *lowest*, that is, nervous force is here at its minimum.

The other class to which I allude, is, I think, nearly allied to, or rather identical with, the "nervous temperament," strictly and correctly speaking. As temperament depends upon the relative preponderance of this or that system—upon its proportionate activity or vitality—the nervous temperament is characterized by great and unusual activity and vitality of the *nervous* system—the sanguine temperament by a strong and vigorous circulation.

In the latter, we have a ruddy, healthful appearance, a lively cheerful disposition, a generous and open nature, without any extraordinary mental endowments; in the former, the display of power is found in the brain and general nervous system. The blood may be wanting in richness and the heart in force—indeed the entire frame may be in feeble condition—but the star of intellect may shine clear and placid in the midst of surrounding gloom rendered all the more cheering thereby—the perception acute, the power of concentration vigorous, judgment and will gigantic, imagination sparkling—the bright eye tells of the fire of genius burning within, and the quick impulsive movements of the limbs are but the external expression of the inner workings of the active and restless mind, ever searching for the hidden depths of knowledge. I do not mean to say that such mental manifestations are made by every person of the truly nervous temperament—for development after all must be, and indeed always is, the result of education and is governed, or at least influenced, by the voluntary exertion of the individual. But by the nervous temperament I would be understood to indicate a mental capacity or aptitude—which if exercised in the proper manner, is fitted for lofty achievements.

It will be observed that I have endeavored to draw a distinction between the two conditions of the nervous system above alluded to, the first being the class of people commonly called *nervous*—the other, those constituting the *proper nervous temperament*—or, for the sake of greater distinctness, and to avoid confusion, what I would prefer to denominate, *encephalic* or *cerebral temperament*. Between these classes, therefore, the nervous so-called, and the cerebral temperament, I would state the following points of difference: 1st. In the cerebral, the nervous system (specially the brain) is most delicate, exquisite and active—while in the nervous, the mental manifestations may be characterized by a sluggishness wholly unknown to the cerebral—its nervous phenomena being generally the result of weakness of the restraining faculties, and being mainly related to the spinal and sympathetic systems, rather than to the encephalic. 2d. The cerebral temperament is a constant and ever operating force—a rule of life—natural, that is the result of primary organization—while on the

other hand, the nervous phenomena of the other class, are generally occasional, transient, the effect of circumstances operating sometimes from within, sometimes from without—an abnormal condition.—And 3d. The cerebral temperament is consistent with perfect health, while the nervous condition of which we have been speaking is diagnostic of disorder somewhere.

I have thus alluded to two conditions of the nervous system, for the purpose of preparing the way for answering the question, who are the most frequent subjects of nervous diseases. Now, it is often loosely and unsatisfactorily stated that these diseases are most frequently met with in persons of nervous temperament or disposition—but the recurring question. Who are meant by persons of nervous temperament, is not answered. Now, I believe that both the above classes are subject to nervous diseases, but of different kinds. Nervous persons are generally, as before stated, in feeble health, and anæmic—the powers of life, vitality, nervous force, is found in them, as might be expected, deficient. The disorders to which this class is peculiarly liable, are therefore those resulting from defective nervous energy. In what nervous energy consists, I do not know. Nervous apparatus is necessary to its evolution and conduction, and a certain quantum of healthy blood is also required, that the apparatus may perform its functions properly. The nervous mechanism is that from which this power or influence proceeds—the supply of blood is necessary merely that the former may be in the proper condition to act. Just as the great motive power, *steam*, is evolved from water, and not from the wood, which is useful only in so far as it furnishes the principle whereby the change of condition is effected, of water into steam. Whether nervous force or energy is something evolved from organization, it is difficult to tell. For my part, I am accustomed to think of the nervous system as the first in importance—and of the influence proceeding therefrom, as the *vis vitæ*, the very breath of life, which the Giver of Life has directly imparted. I cannot subscribe to the doctrine, unhappily so prevalent in our day, that life is the result of material organization. I am compelled to look beyond and above this for the source of this mysterious principle.

A deficiency of nervous power being considered the origin of

the diseases pertaining to one class of subjects, an increase or excess of this same influence it seems rational to consider the cause in the other case. And often we may notice symptoms strangely alike, arising from these different and opposing conditions. A parallel may be found to this, in the two forms of congestion, active and passive, one, the result of augmentation, and the other, of diminution of force. And I am not sure but that activity and passivity are terms very correctly describing the two characters of nervous diseases. A closer analogy may, I think, be drawn between the circulatory and the nervous organisms, than is generally supposed. Each system has its central organ—the one, the heart—the other, the cerebro-spinal axis. From each of these centres, there radiate to every part of the body, lines of communication; in the one case, the arteries bearing the red blood to each tissue, supplying it with the necessary pabulum to renovate it against the increasing wear to which it is subjected, and in like manner, from the great nervous centre, proceed the multitudinous nerve tubes conveying to the remotest parts the appropriate and indispensable energy which is derived therefrom, And like as the arteries passing through the conditions of capillaries, return as veins to the heart, whence they originated, so the efferent nerves at their periphery, loop round, and as afferent nerves return again to the sensorum commune. Again the heart gives the impetus to the current of blood, driving it by its regular contractions into the different channels through which it flows—this effort of the heart being seconded and assisted by the elective and attractive power of the various tissues themselves, acting upon the separate component elements of that fluid—one of the most interesting and beautiful of the many facts developed by modern physiology. The brain, in like manner, may be considered, by a motive power of its own, to diffuse throughout the entire body, the nerve current, which is collected and stored up in its grey substance—the tissues themselves calling for and receiving that measure of supply which they severally need—the nerve texture probably no more creating the nervous influence, than does the heart elaborate the blood which it is constantly taking in and giving out. We cannot, it is true, observe or demonstrate the nervous fluid, influence, or whatever it may be

called, as can be done in the case of the blood. But we can detect the effects produced, as like the viewless wind, this unseen agent traverses the minute cords, more important, and more emphatically the *life current*, than that which is visible to our eyes in the circulatory vessels.

As there are two forces in action, to produce the circulation of the blood, namely, a *vis-a-tergo*, and a *vis-a-fronte*, the latter being the result of the necessity of nutritive supply, and the process of nutrition preserving the blood itself in a condition suitable for its traversing through the vessels; so the cerebro-spinal axis by its diffusive influence, and the demands of the various tissues and parts for nerve supply, may be looked upon as the analogous forces at work for the accomplishment of the end in view, which is the proper and constant distribution of the nervous energy throughout the system. The heart's action on the one hand, and the attractive tissue-force on the other—one or both of these, being either excessive or deficient, will cause a corresponding change in the force and character of the circulation. And we know from recent researches that the first departure from the normal action in the commencing stages of congestion is an alteration of nutrition—and the subsequent inflammation is active or passive, sthenic or asthenic, according as the character of the circulation and the general condition of system, upon which this so greatly depends, is one of strength or of debility. In like manner, may not the nervous system be influenced by any abnormal condition affecting one or both of the two forces before mentioned, which together conserve the object of a constant and equable nervous current? May we not conceive of *nervous* congestion—that is congestion occurring in the nerve tubules—as well as sanguineous congestion? May there not be *stasis* of nerve power, as well as of blood? May there not be an inordinate amount of nervous influence or energy, thrown upon one particular part, whereby the functions of that part are rendered unnatural? And may this not result in one case, from excess of nervous energy and of the diffusive powers of the nerve centres—(a condition which may be compared to *active* congestion)—and in another by deficiency either in the nervous force of the system, or in the diffusive powers of the centres? the first being the condition which

we are apt to encounter in persons of the encephalic temperament, and the second in those of the nervous.

With reference to the diffusive powers of the nerve centres, I would remark, that it is as inherent a property as is that of contractility in the muscular organ called the heart, and that it responds as readily to its appropriate stimulus. The centre presided over by the *will*, propels the nerve force to the remotest bounds of the system, under the impulse of the mental stimulus of volition—the *emotions* can and do powerfully affect through their appropriate centres—and the spinal cord, whether as the originator of independent motion by its reflex energies, or as the medium of communication by which the brain transmits its commands through the nerves springing from its substance, is a powerful and pervading instrument for the distribution of nervous force.

The powers of the Soul are various, and among them there is an established and natural relation. Thus, the intellect is intended to act as the discovering and guiding principle. It should govern and control the emotions and passions,—the reasoning and judging faculties should be based upon its knowledge—the will should follow in the path which it directs—and the will should prompt and be able to execute every action, which legitimately falls within its domain. When these normal relations are departed from, disease exists somewhere in the nervous system.

I will conclude this paper by practically referring the points which I have endeavored to make in the foregoing pages, to several of the more frequent diseases which are considered to belong to the nervous class. And first of all, with regard to those which I have denominated *active*, that is, in which we have a condition of general nervous plethora (if the expression may be allowed), together with full diffusive powers of the nerve centres. I would say, that they often exist as complications of other diseases, and in my opinion are brought about by excessive nervous energy and activity, exactly as we find active congestions and inflammations as the result of the sanguine temperament, predisposing to that character of disease. In infants we observe the presence of a very great amount of nervous force, rendered necessary by the circumstances of that period of life for the vast work of nutrition which must be carried on in all parts of the system, in order

that the proper development both of size and function, may be attained. This nervous force is fully distributed to all the organs and muscles, for the purpose alluded to. But as yet there is little or no call for it by the brain itself—since thought and volition are but dormant faculties, awaiting the completion of what may be termed an incubative stage. The greater portion of it seems to be needed by the spinal and sympathetic systems, which require larger and more immediate supplies. Now in these subjects, whenever an excess of irritation is produced in the body, from any cause, we almost always witness an attack of convulsions as the result of increased nervous energy, the spinal system, through the brain, which is the primary point of nervous determination, and which probably rids itself of the overplus by means of this channel, being affected as the one most obnoxious to such influence, and being naturally highly charged, unable to endure a further addition. Its diffusive powers being then called into action, all the muscles are energized,and the motorial activity expends a certain quantity of the surplus force. This is one of the three modes by which the spinal cord disposes of the superfluous force, namely, converting it into motion, and distributing it by its diffusive powers through the various muscles, thus acting in its *reflecting* capacity. In other cases and under other circumstances, it may *transmit* the force or a part of it upwards to the brain, as the highest centre, being then merely the medium of communication, between the periphery and the encephalon, and producing in the latter a degree of excitation proportioned to the amount of stimulus, brightening the intellect or causing super-sensitiveness of the organ, as we very frequently observe in cases of "spinal irritation" in the adult. And then again, this addition of nerve force, or a part of it, "*may be retained* and may serve to modify the cells of the spinal cord itself, in such a manner as to render them more fitted for the production of the action required, in response to that particular stimulus. This modification of the nerve cells is called in by Dr. Maudsley to account for the acquisition by the nerve centre, of the power of doing with greater ease after repetition, actions which in the first instance were performed with difficulty." This constitutes the condition which I have denominated an exquisite nervous mechanism—one which responds to the minutest test,

just as a delicate balance gives indication of the smallest fraction of a grain which may be placed in the scale.

Again we have often noticed the almost certainty with which a professional man, in the midst of his mental toils and daily anxieties, attacked with a febrile disease, soon succumbs to a delirium or coma, resulting from the previous active and excited condition of the brain, rendered more intense by the augmented nervous energy depending upon the febrile state—producing an encephalic *nervous congestion*, which soon passes beyond the limit of normal action, and being the cause of the cerebral derangements above mentioned. This condition may or may not carry along with it as a consequence, a sanguineous congestion, the complication depending, I think, most probably upon the force or feebleness of the circulatory system. This same stimulus, however, applied to an infant or young child, would almost certainly produce spasms or convulsions—the difference possibly arising from the circumstance noted in the preceding paragraph, of long stimulation of one nervous centre, causing in it a super sensitiveness, whereby it is rendered susceptible to the slightest influence, and seems to be the first to feel and to respond to any excitation, generally applied, and to present manifestations accordingly, the brain being thus circumstanced in the case of the professional man the spinal cord in that of the young child.

Tetanus is another of the *active* nervous diseases. In this distressing and fatal malady, we have a condition of peripheral excitation, constantly propagated to the spinal cord (nervous congestion). Some of this accumulated force being expended in the production of the characteristic tonic spasms, the rest being retained and rendering that centre most exquisitely sensitive—so much so, that a current of air, and sometimes even a whisper will be sufficient to cause a return or an aggravation of the spasm—the brain all the while, being wholly unaffected, the mind clear and calm as a general rule, proving conclusively that it is a disease of the excito-motor system, and consisting in increase of its nervous energy.

Turning now to the other class of nervous diseases, namely, the *passive*, that is, those characterized by deficiency of nervous energy and of diffusive power,—we have prominently before us,

chorea, epilepsy, hysteria and the neuralgias. And one peculiarity belonging to this class, to which I would call attention, is that they all have a tendency to *recur*, the subject, during the intervals, being comparatively in good health; while in the other class before spoken of, each disease seems to be included in one attack, long or short, and terminates either in death or recovery, without any marked disposition to return.

Another characteristic feature of the diseases of this class, is that they are most apt to appear in those who are not in vigorous health of body or mind, and whose emotional nature is stronger than the intellectual or volitional. This is not the case in the opposite (active) class, for these seem to prefer the subjects in whom there is a marked degree of vigorous energy, physical as well as mental.

In the two first named diseases of the passive order, (chorea and epilepsy) there is motorial derangement—in the former without impairment of consciousness, in the latter, with total loss of consciousness. In chorea the power of the *will* seems to be diminished, and the co-ordinating faculty suspended—the volitional nerve centre does not possess the property of diffusion in an adequate degree to cause the nerve current to flow uninterruptedly on to the muscle or muscles to which it is directed—it is in an *asthenic* condition. As, in the analogous state of the circulation, where the heart is feeble and its impulse scarcely sufficient to drive the blood through the vessels, we have a small weak fluttering pulse; so, we have here a very similar condition of nerve current—in both cases the expelling and propulsive effort seems to be repeated in quick succession in order to supply by the increased number of contractions, the deficiency of power. Hence we notice the frequent attempts to perform a desired muscular action—as if the will, recognizing the inadequacy of the primary effort, were endeavoring by these successive waves of nervous force driven in the same direction, to furnish the requisite supply for the accomplishment of its design. There is, I think, evidence of a tendency to stagnation of the nerve current, in the cord or the nerves proceeding from it, resulting from the enfeebled condition of the "central ganglia of the brain" (Aitken), whereby the expressions of volition are interrupted and impeded—for ac-

cording to Reynolds, "the special occasions of increase or of induction of choreic movements are the attempts at volitional action and emotional changes."

In *epilepsy*, we have in addition to the convulsive movements of chorea, an entire and sudden loss of consciousness. There is consequently, a larger portion of the encephalic centres involved, than in that disease, though I believe the character of the condition to be the same, namely, a diminished supply of nervous force; a sufficient quantity being wanting, the exercise of normal function is entirely arrested, and it seems that the greater part of the nerve power of the whole system is resident, during an attack in the spinal cord, giving rise to the spasmodic phenomena, unrestrained by any influence of the will. Brown-Séquard has said that epilepsy is a temporary anæmia of the brain: if so, the lessened amount of blood furnished to that organ, is the cause of the decreased or suspended evolution of nerve force; for, as I have already remarked, a healthy instrument, together with due supply of healthy blood-stimulus, is necessary for normal action. The immediate cause, however, of the epileptic attack, is the *aneurotic* state, or the state of absence of nerve power, rather than the condition of anæmia.

Hysteria, with its thousand varied forms, is another member of this class. Simulating almost every other disease, it is characterized by loss of the controlling influence of the intellect and the will—the corresponding centres are deficient in their peculiar power, hence the emotions have such unlimited sway; paroxysms of convulsive movements alternate with neuralgic symptoms, both the result of deficient expansive energy of the volitional centres. This, in my opinion, is the condition in *neuralgia*—at least that variety which is of the passive character—for there is doubtless a neuralgia dependent upon an opposite condition of the system. The hyperæsthesia of neuralgia is consequent upon a superabundance of nerve power possessed by the nerves of the affected part, for pain being the effect and the expression of a condition of nervous irritation, there must be an excess of the nervous fluid at that point; even should the centre which receives the impression be supersensitive, there must be that disproportion of the nervous supply in favor of that particular spot,

in order to explain its reference to that rather than to any other point—the excess due, I imagine, in the passive form, to a stasis, or a passive congestion, caused by insufficient expansive force in the propelling centre;—in the active form, to the increased amount of force evolved, necessitating an excess in some part.

The Will has a wonderful influence over our sensations; the experience of every one proves this. Many persons in whom the power of will is enfeebled, as in disease which diminishes nervous force, are tormented by trifles, which, under other circumstances, would give them no concern; while on the other hand, we observe others, who seem ready to drop into the grave, living on, year after year, as is often remarked, "only by the force of will," an expression which very accurately expresses the physiological fact, of which I have spoken. Life depends upon nervous force, and the will has more influence over its propulsion through the system than is frequently imagined. Hence the benefit to the sick, of hope, cheerfulness and confidence—a desire for, and an expectation of recovery, tending to draw forth all the latent energies, and to send a fresh current of life through the entire frame. Hence, too, the prostrating effect of despondence, fear, and despair, paralyzing all effort, and drying up the fountain of life. When the heart ceases to beat, life fails—but when the nerve centres cease to give forth their energy, the heart is checked immediately, and death ensues. This, then, is the system, which of all others, appears to me to be the originator, or at least the transmitter of life. Its diseases are wrapt in mystery; but the humblest laborer in the field, may, by adding his mite to the general fund of knowledge, assist in the work of elucidating the dark problem.

ART. V.—*Clinical Observations on Periodic Fever:* By SAMSON EAGON, M. D., Jefferson City, Texas.

ALTHOUGH we are not prepared to go all lengths with those who hold that all diseases are forms of ague, yet the importance of the subject is not likely to be appreciated in its full extent if we fail to recognize the fact that, the malarial principle, the acknowl-

edged cause of Periodic fever, is reasonably inferred to exist in greater or less amount, in the atmosphere of every region of the globe; that over a large extent of the territory of our own country, it is present in a concentrated form, producing, as an effect, during the greater portion of the year, a disease of grave character and more general in its prevalence than all others together; that, in such districts, when not productive of the disease, *per se*, its influence may be impressed upon every other disease of the nosology, whether inflammatory, febrile or neurotic, functional or organic, either in their acute or chronic course, thus not infrequently sufficing to obscure or to mask them, and presenting a distinct and special indication for treatment.

If the subject be a trite and homely one, it is not the less important to those upon whose resources it will make everyday demands in the ordinary exercise of their calling.

Within the last decade, most valuable accessions have been made to our means of cure, and several erroneous opinions respecting the nature and treatment of this affection, the meanwhile have yielded to a more enlightened theory, as the basis of a more successful practice.

We do not propose in this brief communication, to enter at large into the discussion of the treatment of periodic fever, but only to offer some practical observations on several points connected with its management deemed of more than ordinary importance.

In order to avoid confusion, it is proper to state that in the term periodic fever, is embraced all of the divisions and subdivisions usually made by authors, of this disease, viz: intermittents, remittents or bilious remittents, congestive, etc. All of these we consider essentially identical, and we base this proposition on the following facts:

1st. The same causative agency is productive of all alike.

2d. The several forms are mutually convertible, the one into the other.

3d. The paroxysmal tendency is a trait common to them all.

4th. They are all controlled by the same curative means.

There is, doubtless, a practical convenience gained by these divisions, but it is at the risk of propagating an error; for the

student and young practitioner are too prone to regard what may be treated of under separate heads, as separate and distinct entities.

With these facts before us, we are almost driven to the conclusion at which Bouilland arrived on the subject, that these divisions of periodic fever are a "real nosological superfœtation."

Notwithstanding the vast amount of research which has been expended on the subject of the primary or essential fevers, we possess but little positive knowledge to-day respecting their nature and causes, and of periodic fever, we are scarcely better informed than of its congeners. That they all have their seat in the blood is the most logical conclusion in the present state of knowledge on the subject; that each one has its own special cause, which is capable of producing it and none other, is more nearly certain; of these special causes again, we have but imperfect information as respects their generation, entrance into the system, and primary action in the body.

The ague-poison is doubtless of terrestial origin, and the cryptogamic theory so ably enunciated by the late Prof. J. K. Mitchell, has lately received very strong confirmatory support from the results of Prof. J. H. Salisbury's elaborate investigations on the subject, it not yet being treated as an established fact. As to the mode of entrance of the poison into the blood, it is most probably by absorption from every absorbing surface of the body, but respecting its operation in the blood, we know positively nothing. Its effects on the system are all we can appreciate or understand.

The effects of the malarial poison in deteriorating or contaminating the blood, are singularly uniform and distinctive. This is exemplified in a striking manner in pernicious periodic fever, especially in that variety called necræmial, in which the cause is so intensified, or the susceptibility so great,—or it may be from these two circumstances together,—that a series of destructive changes, septic, or zymotic, are set on foot, whereby the vital fluid is rendered unfit for the grand purposes of nutrition and secretion.

Anæmia is an almost uniform effect even in the primary career of the malady, and on its chronic course, an invariable attendant. Its features are best defined in those cases of protracted exposure

to the operation of the poison, in which that dyscrasial state has been induced, known as the malarial cachexia.

From the phenomena presented in this condition, it is fair to conclude that, an active morbid material or process, has been at work in the blood whose most prominent effect is to disintegrate and despoil it of its essential solid constituents, its fibrine, albumen, and hæmatin.

The sequelæ of periodic fever (and their name is legion), may nearly all be traced to this peculiar anæmic constitution of the blood as their direct, or indirect cause. "The effects of anæmia are pallor, collapse, and shrivelling of the textures, weakening and eventual extinction of their functions." (Rokitansky.)

The spleen suffers more, perhaps, than any other organ of the body, from the direct effects of the poison, and as one of the functions of this viscus is supposed by physiologists to be, the elaboration of fibrine, this interference with its functional activity may thus indirectly add to the general hydramia.

The foregoing brief summary of the principal concomitants and pathological effects of periodic fever, embraces the fundamental teaching of the most recent authorities on the subject. Unfortunately, a great deal yet remains to be verified or refuted by future research and observation. In the absence of positive information, the mind naturally strives to erect some plausible theory in explanation of the phenomena presented. We must have some sort of theory, indeed, on which to base a rational practice. "Experience without theory is blind."

It is matter of wonderment, that the old plan of treating this disease should have held its ground so long, after the more modern, and infinitely more safe and successful one of the present time, had been established and promulgated to the profession; and not less remarkable is it, that there are those among us who still adhere to the ancient dogmas of their early masters, with no less tenacity on this point than on many others long since obsolete.

To prepare the system for the reception of anti-periodics or tonics, even in the simple intermittent form of periodic fever, is, strange to say, still regarded as of paramount necessity by a few practitioners of the country, and the general course is to vomit,

purge, mercurialize, and even bleed, before the system is considered in fit condition to receive quinia or its succedanea. Some carry the use of this class of remedies much further, regarding mercury and antimony as essentially curative in their effects, and with this view continue their use throughout the whole course of treatment, which, under such circumstances, is generally quite protracted.

But a much larger number at the present day, hold to the doctrine that in the treatment of that form of periodic fever, called, with doubtful propriety, bilious remittent, antiphlogistics, especially mercury and antimony, together with various eliminative means, are of indispensable utility.

This practice is based on the assumption that the liver is primarily and largely implicated in this form of disease, presenting a special indication for chologogues, etc., and, that the employment of quinia during the acute stage of this affection, whilst it promises no good as an ectrotic, is fraught with danger.

We believe it is not going far enough in condemnation of the antiphlogistic or non-abortive plan of treatment of periodic fever, to assert that this class of remedies is not indicated, or that their employment may do infinite negative harm, by standing in the way of appropriate means—as when they are vainly relied upon in ordinary periodic fever, which, in either of its forms, may, at any time, assume a pernicious character, but to this we should add, that they are directly and positively injurious.

Antimony and mercury may fairly be taken as typical of the class of antiphlogistic medicines, and whilst they possess neither tonic nor anti-periodic properties, their direct effect is to break down and impoverish the blood. Their operation in the blood must be analogous to that of the ague-poison, since the results of the operation of the two agencies, as respects the blood are very similar.

The correctness of these conclusions granted, we know of no principle on which their administration could be considered admissible, except the rule of the disciples of Hahnemann—"*similia similibus curantur*," a doctrine not in favor with the orthodox sect, and opposed alike to logic and common sense.

While the antiphlogistic, or non-abortive system of medication,

as applied to periodic fever, is not tenable on theoretical grounds, clinical observation furnishes irrefragible evidence of its inutility. In his admirable work on the "Principles and Practice of Medicine, 2d edition," that pre-eminent author and teacher, Prof. Austin Flint, Sr., of New York, makes the following just observations on this subject: "For the cure of intermittent fever, medicine possesses specifics, if any remedies are entitled to this appellation. This statement applies especially to the salts of quinia, of which the sulphate is the one almost universally used. The sulphate of quinia will promptly interrupt the recurrence of the paroxysms of intermittent fever in the vast majority of cases. It is always desirable to arrest the disease as speedily as possible. Its morbid effects are less in proportion as it is quickly arrested, and the liability to relapse is diminished. There is no need of preparatory treatment. This position was taken by the author in an article published twenty-five years ago. An experience embracing many hundred cases in different climates, since the date of that publication, has abundantly confirmed the correctness of this position. Aside from the delay in arresting the disease, the measures heretofore employed to prepare the system for the sulphate of quinia or other special remedies were injurious. The measures were, mercurial cathartics, emetics, and sometimes bleeding. These measures are not indicated in the treatment of intermittent fever. A consideration of no small importance, as enforcing an immediate employment of the abortive treatment, is the possibility of an intermittent fever, at first simple or ordinary, becoming, after several paroxysms, pernicious."

On the subject of treatment of remittent fever, the same distinguished authority gives the following sound precepts:

"The first and leading object in the treatment of simple remittent fever, is the arrest of the disease by anti-periodic remedies, of which the preparations of cinchona are by far the most reliable, the sulphate of quinia being the preparation to be preferred. As soon as the character of the disease is determined by the occurrence of a remission, the sulphate of quinia should be given in a full dose, viz., from ten to twenty grains to an adult. * * * If cinchonism be not produced during the remission, the remedy may be continued during the exacerbation of fever, * * * .

In short the treatment is essentially the same as in cases of intermittent fever. And this plan of treatment will succeed, in a large proportion of cases, in promptly arresting the disease."

For a period of more than ten years, and in a field somewhat more extensive, we have adopted this abortive method in periodic fever, with results such as to enable us to add our unqualified testimony in favor of its adaptability, and efficiency, beyond all other plans; and this applies not less to remittents than to intermittents.

Formerly, our mode of treating periodic fever during the cold stage of the paroxysm, embraced little more than palliative means, abortive measures not then having been discovered. Recent discoveries and improvements in therapeutics, however, have supplied us with ectrotic remedies, by means of which this fever may be jugulated in the very height of its violence. No greater benefaction we believe, has been conferred on humanity during the present century, than the discovery, in 1852, by Prof. A. P. Merrill, of New York, of the value of chloroform internally administered, in the cold stage of fever. It is, indeed, a most fitting honor with which to crown a long, successful, and laborious life of devotion to science and humanity. In order to obtain the full measure of its therapeutic influence, chloroform should be given, as insisted on by Dr. Merrill, in "physiologic doses," of f. ʒi, to be repeated at the interval of fifteen minutes, or half an hour, till its full hypnotic effect is experienced. Employed in this way, it will, in a large proportion of cases, arrest the paroxysm in the first stadium, and when it fails to do so, it will almost invariably diminish its intensity, and to that extent, lessen the severity of the succeeding hot stage. We have employed the remedy largely in this condition for the last eight years, in the manner above specified, and we take pleasure in offering our feeble testimony as to its perfect safety and efficiency, in bringing about reaction from the cold stage of fever, beyond all other remedies with which we are acquainted.

Chloroform is not incompatible with other agents known to be useful in the treatment of periodic fever; it may, therefore, be employed in conjunction with other appropriate means, or, it may be assisted by such adjuvants as may be deemed advisable. If

not retained by the stomach, it should be given per enema, suspended in glycerine or olive oil. It is quite as well adapted to the cases of children as to those of adult subjects, but, of course, the dose should be proportioned to the age.

The immense value of this agent can be duly estimated, only by witnessing its operation in the cold stage of pernicious paroxysm, in cases in which the patient is seen too late for the great anti-periodic quinia to be available. Such cases illustrate the fact, that "to know the natural course of disease, is more than half of medicine;" and guided by such instruction, the veriest expectante, it would seem to us, could scarcely feel content to adopt "a masterly inactivity." Perhaps, in no other pathological condition, is the curative power of medicine exemplified in a manner more positive and striking.

The subcutaneous injection of quinia in the cold stage of periodic fever promises valuable results, since by this method, its certain and speedy absorption by the venous radicles is secured. Thus administered, the constitutional effects of the agent will be experienced in from ten to fifteen minutes, and the quantity required to produce such results, is estimated at two-thirds the dose given by the mouth. Several examples of the success of this practice in the algid stage of pernicious paroxysm have been recently published in American medical journals.

In some cases of periodic fever, the remission is imperfect, or of short duration, and, under such circumstances, it may become necessary to continue the use of quinia during the hot stage of the paroxysm. It is well known, however, that, administered during the stage of reaction, quinia produces distressing nervous excitement in many cases, and in some, even dangerous consequences, if it be not tempered in its operation by some agent capable of mollifying its effect upon the nervous system. This difficulty may be obviated by associating with quinia, a sufficient quantity of ant. et pot. tartras. to produce moderate sedation, as evinced by slight nausea. Used for this transient purpose, antimony produces only its neurotic effect, sedation, without being open to the objection applicable to its protracted employment, viz., that of disintegrating the blood.

But an agent of more certain efficacy in tempering the harsh

action of quinia administered during the pyrexial period of periodic fever, we have found, from numerous trials, to be hydrocyanic acid. This sedative, is, in like manner, applicable to those rare cases of idiosynerasy, in which quinine, given even in the apyrexia, produces painful nervous phenomena. Under such circumstances, this agent will be found to act like a charm in procuring relief. Several instances have come under our observation, in which this idiosyncrasy amounted to complete intolerance of quinia, and, in these same cases, we have administered the remedy in combination with hydrocyanic acid thus so effectually softening its operation as to render the patient almost incredulous of the assertion that he had taken a remedy which, when not thus guarded, had given such distress.

To prove effectual, hydrocyanic acid should not be given in infinitesimal doses. Ten drops of the medicinal acid (U. S. P.) may be taken as a medium dose; and this quantity may be safely repeated several times at the interval of fifteen or twenty minutes, if relief be not procured by the first dose. The one or two drop doses usually stated, will be found inadequate to produce any useful impression.

Our task is but half accomplished when we have arrested the course of periodic fever, its known tendency to recur being one of its most marked characteristics. Judging from our own observations, with reference to this point, we believe it is not an exaggeration of the facts to say, that the liability to a return of fever after it has been arrested, the subject remaining in a malarial district, amounts to nine chances in ten, if attention be not paid to prophylaxis. A single paroxysm deteriorates the blood, and lowers the vital powers of resistance to disease. In view of these circumstances, we have been for several years in the habit of prescribing for our convalescing chill and fever patients, the following, or some therapeutic equivalent:

℞ Quinia sulphas, Ferri. pulv.....aa ʒ i,
Strychnia..... gr. i,
Gentianæ extract. ..... q. s.
M. Ft. pil. No. xxx. S. One morning, noon and night.

Provided, a few paroxysms only have been suffered, this will be sufficient to reinstate the system, but, if great hydræmia exist,

due to the protracted operation of the poison in the blood, it will be found necessary to continue the remedies above stated for a much longer period, in conjunction with the tinct. ferri. chloridi, gtt. 25 or 30, three or four times a day. Together with good alimentation, and a well regulated hygienic and calesthenic system, we have rarely failed with the combination referred to, of effectually warding off a recurrence of the troublesome disorder.

In a future number of your excellent Journal, we hope to be able to give our experience with the sulphites in periodic fever, as we are now making them the subject of clinical study.

ART. VI.—*A Case of Dystochia, Relieved by Incising the Os Uteri:* By THOMAS C. HILL, M. D., Dayton, Alabama.

ON the night of the 15th of January, 1868, I was called to see a woman, whose appearance, at first, indicated great uneasiness and alarm. I was informed by the nurse, who had some intelligence, that "seventeen days previously she had severe pains in her bowels, which continued for several hours." This I referred to a premature action of the uterus, produced by some extraneous cause, but on interrogating the patient more closely, I learned that the pains had continued slowly for twelve hours, and on the discharge of the waters, had gradually subsided, until they had entirely ceased. There had been some hæmorrhage, which had continued at intervals up to the time at which I first saw her. Lactation had been perfectly established, indicating that the term of utero-gestation had been completed. The movements of the child had not been noticed since the pains ceased. This gave the patient some uneasiness, and caused her to imagine that the child was dead. There was an offensive discharge which was increasing. This alarmed the patient and caused her to send for me. On examination, I found the os uteri sufficiently dilated to admit two fingers, and as intensely hard and unyielding as if it had been some bone-formation. I could plainly feel the fœtal head. I made active and long-continued efforts to dilate by manipulation, but failed. I administered chloroform, and renewed my efforts at dilatation, but the stubborn os remained perfectly un-

yielding. I then employed ergot, notwithstanding the persistent rigidity of the os uteri, hoping to infuse some kind of action, to arouse vitality in the lifeless paralyzed organ; still there was no response. The woman appeared to be rapidly dying from pyæmia, produced by the absorption of poisonous gases, resulting from decomposition, and that there was but one remaining expedient—to incise the os, to divide this hard, unyielding tissue, and remove the putrid mass at once.

After having the patient thoroughly cleansed, nourished and stimulated, I caused her to assume the left lateral semiprone position, and by the use of Sims' speculum, I obtained a full view of the parts. I made an incision backwards, in the direction of the sacrum, continuing it slowly until I noticed a very perceptible yielding of this indurated ring, then by renewing my efforts to dilate, I soon succeeded in introducing my hand, and turning and delivering the entire ovum, which was in a state of advanced putrefaction. The hæmorrhage, which was considerable on account of the immediate want of action in the uterus, soon began gradually to subside, under the influence of ergot, friction, and cold applications. I at once applied Dr. Squibb's liq. ferri. persulphatis, diluted as recommended by Dr. Sims, to the incision, and over this a piece of cotton saturated with glycerine, as a detergent and disinfectant. An active metro peritonitis supervened, which gradually subsided, after three weeks of intense suffering, under which the patient must have succumbed, but for her extraordinary physical powers. She is now in the enjoyment of excellent health.

For two weeks succeeding the operation, I censured myself very much for my boldness, in undertaking to practice this mode of relief, and my only consolation was, that its feasibility had been frequently discussed and even recommended, by worthy and honorable members of the profession, and that it was the only probable relief for the patient, as a less heroic practice had heretofore been attended with so little success.

Had this patient died, I question whether this would have been a sufficient justification in the eyes of the world. Still, I did my duty, and duty describes the great circle which embraces all else within it.

ART. VII.—*Surgical Cases:* Reported by Dr. C. K. DIVINE, Canton, Miss.

1.—*Case of Anaplastic Surgery.*—Miss. G., of Yazoo County, Miss., aged seventeen years, applied to me, April 1, 1867, with an unsightly cicatrix, (the result of a burn received when three years of age) above her left eye, extending the full length of the superciliary ridge, and encroaching upon two-thirds of the lid. The long exposure of the eye had impaired the sight, also causing great irritation and deformity. With the kind and efficient aid of Drs. Luckett and Orrick, chloroform was administered, and an operation was performed. After making an incision through the cicatrix, over the superciliary ridge, and dissecting back the tissue, the part of the lid was brought in normal position. This left an oval space two and one-half inches in length, and at its middle, one and one-half inches wide. I then dissected a flap from the upper part of the right arm (she objected to my using the left) of an exact size of the opening, brought the flap in position and fixed it with hare-lip pins, a bandage confining the arm to the head seventy-two hours. On severing the attachment from the arm, I found that union had partially taken place. Simple dressings for two weeks longer effected a cure; the deformity was removed, and she has now perfect use of the lid, and has recovered her eyesight.

2.—*Luxation of the Head of the Humerus of Four and half years' Duration successfully Reduced.*—I was requested to see Mrs. M. D. Andrews, of this (Madison) County, in May, 1867, who had been suffering with a luxation of the head of the right humerus, since October, 1862. Her age fifty-seven years; constitution and general health good.

The injury resulted from a fall, which forced the head of the bone forward under the pectoral muscles. No artificial joint having formed, and there being no very strong unnatural adhesions, I found but little difficulty in returning the head to its original socket. This done, by means of a compress and figure of 8 bandage, it was kept *in situ* nine weeks, when the dressing was removed, and the patient was relieved of a grievous disability of four and a half years' standing.

ART. VIII.—*Case of Gun-shot Wound of the Kidneys, with Recovery:* By Dr. E. M. PENDLETON, Sparta, Ga.

THE books regard complete recovery from a wound of the kidneys, as very rare. As such, I propose to put one case on record, which seems to be clearly marked, and as far as our practice is concerned, perfectly unique.

G. H. P., Esq., received a pistol shot on Friday evening, about dusk, 27th December last, in the right side, about two and a half inches from the umbilicus, and a little above.

The probe indicated an oblique direction of the ball, outwardly, but we have long since learned to place but little estimate upon it as an indication of the range of shot. The muscles probably changed position, as the patient received the shot while standing, and was examined while in the recumbent posture.

He vomited freely soon after receiving the wound, which made us fear an abrasion of the bowels. The digestive system, however, remained intact, with fair appetite, and several good operations from a blue pill and injections, within the first week.

During the first night he voided urine twice, tolerable freely, which, however, was strongly mixed with a dark, grumous blood, leaving a heavy sediment. This continued for several days, the water gradually becoming clearer, until but little or any sediment remained.

The pulse ranged from 78 to 94 during the first seven days, with but little pain or soreness in the wound only along the track of the ball, from its entrance to a point immediately opposite in the track, some two inches from the spinal column, and directly behind the right kidney. This was quite tender upon pressure, and indicated the lodgment of the ball.

The case progressed favorably until Friday evening about eight o'clock, the seventh day from the injury. At this time, while sitting up to take his supper for the first time, and against my directions, he was taken with severe pain in the region of the wound, extending down the track of the ureter to the bladder and testicles, resembling the passage of a urinary calculus. He immediately voided about a gill of pure red blood by the urethra with little or no urine. It coagulated instantly. The pain continued during the night with frequent passages of bloody urine in small quantities.

This state of things continued during the second week, only in a less degree; the pain gradually subsiding under the use of morphine, internally and hypodermically, and the urine becoming more natural, until within two days it had but little, if any tinge of blood. During this time he must have passed near a quart of blood per urethra.

Subsequently to the secondary hæmorrhage, his pulse ranged from 83 to 106.

A question arose as to whether the blood was arterial or venous. For myself, I never doubted but that the blood was arterial, only made dark by the chemical action of the urine upon it. That a branch of the renal artery was severed, and after the first hæmorrhage was staunched by coagulation, and perfect quietude to which the patient was subjected, Nature attempting to form a false aneurism. That on the seventh day, from the undue effort of the patient in sitting up, this aneurism gave way, and a secondary hæmorrhage, as above described ensued.

It is proper to state that Drs. Alfriend and Brown, of this place, and Prof. Campbell, of Augusta, were called in, and assisted in the treatment, which consisted mainly of the strictest quietude, light diet with tannic acid and opium pills, till the hæmorrhage ceased, and, subsequently, iron by hydrogen and quinine, till the system recovered its proper tone.

For several weeks the patient passed a muco-purulent sediment from the kidneys, with a somewhat lessened amount of urine: he also evinced a disposition to void it frequently. But this finally passed off, and he now seems to be as well as he was previous to the reception of the wound.

ART. IX.—*The Physiology of the Cerebral Circulation, Cerebro-Spinal Fluid, and Cerebral Movements:* By STANFORD E. CHAILLÉ, Prof. of Physiology, etc., Medical Department of the University of La.

FEW subjects teach, better than the history of the cerebral circulation, how readily false conclusions can be drawn from well established physical laws; and with what forcible impunity, and

for how long a time these false conclusions can be maintained in opposition to the most familiar but adverse facts.

It was long taught that, — since the cranial, unlike other cavities, is an air-tight incompressible box, filled with incompressible contents; — and since such a box must always contain the same amount, must always be full, or failing this, produce that physical impossibility in the animal economy, a vacuum; — *therefore*, that the amount of blood, one of the cranial contents, must remain always the same, and could not, by any physical possibility, vary.

A half dozen autopsies ought to have sufficed to have proved, that there was in this "*therefore*" faulty logic somewhere. But they did not, and the *true facts* are rejected, until the error in the *false* conclusion was pointed out. It was at last found out that there were three important cranial contents; that besides brain and blood, there was another fluid, and that this cerebro-spinal fluid played so important a part in the cerebral circulation, that physiologists were enabled to amend their theory, and make it accord with the facts. These still teach that the *total* amount of contents in an air-tight box, as the skull, cannot vary; but that the *relative* proportions of the different contents can, and do constantly vary. One may be augmented provided another is correspondingly diminished; two, even, may be augmented, provided the third is as much minus, as the sum of the two others is plus. This is exactly what occurs in the brain, as may be daily seen in the dead-house. There, in ordinary cases, the brain is found little altered in size, but the quantities of blood and fluid are seen to be constantly present in varying amounts, which are in inverse ratio to each other. The more blood the less fluid, and *vicê versâ*. So that the presence of an unusually large quantity of normal fluid in the ventricles and around the brain, simply indicates anæmia of the brain, whilst an unusually small quantity is equally indicative of hyperæmia. If the brain be diminished in size, as in alcoholic atrophy, there can be an unusual quantity of both blood and fluid; so, too, if the cranial cavity be enlarged, as in hydrocephalus, the brain maintaining its normal size, then too both blood and fluid may be in excess. But in these two conditions *only* can there be an excess of both. It is also worthy of remembrance, that causes operating after death may modify the

respective quantities of blood and cerebro-spinal fluid found present within the skull, and indicate conditions different from those existing during the life of the subject examined. All admit these facts, but let it not be supposed that this varying quantity of cerebro-spinal fluid in the brain is only a pathological condition. In the cases mentioned, it is but an excess of a physiological function which is in constant, and momentary action. So that this history of the cerebral circulation first gave a definite idea of the physiology of the cerebro-spinal fluid, and is a proper introduction to its consideration, and to that of the cerebral movements, in whose production it plays a very important part.

The cerebro-spinal is a serous fluid, which however, in its normal condition lacks one of the principal characteristics of other serosities. It does not coagulate on the application of heat, owing to the absence of albumen, or the very minute quantity it contains. Robin teaches that it is the only normal serosity which is constantly present, and that it is the most abundant of all. Its quantity is very variable, and it is readily absorbed and reproduced, depending on the degree of pressure to which it is subjected. Its average quantity is estimated at about two ounces, but in cases of cerebral atrophy, as much as twelve ounces have been collected; and in a case of fractured skull with laceration of the membranes, Bernard states that (owing to its rapid reproduction when lost) over two pints flowed out in twenty-four hours. In this case, the fluid flowed in expiration, thus indicating that it was subjected then to augmented pressure.

Magendie, led by erroneous interpretation of his experiments, taught, that its removal produced serious symptoms, but Longet proved that conclusion false (pointing out the cause of the error), and Bernard teaches, that there are no cerebral symptoms whatever, unless the fluid is sucked out, and by this means removed without admitting air to supply its place. In such case the animal is enfeebled, and sometimes falls as though struck with paralysis;—and a post-mortem examination shows the spinal membranes and cord ecchymosed, and swollen. These lesions are due to suction. The escaped fluid producing a vacuum which sucks the blood into the spinal vessels, swelling the cord, and out of them, producing

ecchymosis. Such are the facts well established by vivisections. To which may be added an illustrative and apparently contradictory case, made known to the author by a most competent observer. A benign tumor, in a perfectly healthy child, was associated with spina bifida. In removing the tumor, the spinal membranes were unintentionally opened. The fluid flowed freely, and in very large quantity notwithstanding the resort to every surgical expedient to arrest it. Within thirty-six hours the child died with the symptoms of cerebral congestion; and it was not possible to assign its death to other cause than the loss of the cerebro-spinal fluid; which, from the nature of the disease, must have been present in unusal quantity. I am not disposed to dispute Bernard's facts, nor the facts stated in this case. Therefore it is necessary to grant, whether explicable or not, that circumstances must have existed which presented an admission of air as free as was the flow of the fluid.

Another error committed by Magendie as to this fluid was in locating it in the arachnoid sac, thus making it bathe the dura mater; an error which he subsequently corrected. But there are those who remember his first teaching, and forget his correction; which is, that the fluid is only found normally beneath the visceral layer of the arachnoid, and therefore between this and the pia mater. This anatomical fact is important, for without it, it would be impossible to understand how it is that the cerebro-spinal fluid is in one continuous sac, as it were. That whilst it is external to the brain, it also passes within the ventricles, and down into the spinal cavity, and is therefore readily displaceable. Thus it bathes and supports the whole cerebro-spinal axis externally, and also passes within the brain through the posterior opening of the fourth ventricle. However, it should be borne in mind, that around the brain this fluid is in the areolar meshes which connect the arachnoid and pia mater, and therefore cannot be as displaceable and communicate as freely with the fluid elsewhere, as is the case with so much of this fluid as is in the ventricles and spinal cavity.

These preliminary facts permit now a consideration of the cerebral movements, and the part taken therein by this fluid.

The quick, slight pulsations of the brain, synchronous with

ventricular contraction, and the slower, stronger pulsations synchronous with expiration, are facts which ordinarily are readily felt and seen when the cranial cavity is not air-tight; and in Nature's experiment of spina bifida, as in the artificial experiment of exposing the spinal cavity, a bulging out of the membranes is also observable, synchronous with expiration, which if forcible, notably augments the distension. Though these phenomena occur without dispute, when the cranial cavity is not air tight; it is very much disputed whether any movements of the brain can occur in the normal air-tight condition of the adult's cranial cavity. The weight of physiological authority supported by that of most distinguished physicists, bears strongly on the side, that in the air-tight cranial cavity, cerebral movements of any kind are physically impossible. This view is sustained by Longet more fully and ably, than, perhaps, by any other, and his strongest opponent is Richet.

What are the causes of the movements observed when the cavity is *not* air-tight? The cardiac pulsations in the brain have the same cause as the radial pulse, the larger relative quantity of blood thrown into the brain, and its difference in texture account for the pulsation of the brain *en masse*, as does not so manifestly occur in other organs or parts, but does occur in vascular pulsating tumors,—the arteries are distended with blood by the ventricular impulse, and the cerebral mass they supply is hereby moved.

The respiratory pulsations are caused by the influence of the respiration and expiration on the circulation, an influence stronger upon the cranial circulation than elsewhere, in consequence of the peculiarity of this circulation; which the large, open, non-valvular channels, the various sinuses, render peculiarly impossible to the influences of respiration. Inspiration, tending to produce a vacuum in the thorax, favors the flow of all currents into it; and in consequence of the anatomical peculiarity mentioned, adds the force of suction at such inspiration to the *vis-a-tergo* of each ventricular contraction in emptying the venous blood out of the brain. Therefore, at each inspiration, the amount of blood in the cranial cavity and brain is at its minimum. Expiration, on the other hand, diminishing the thoracic cavity, impedes the flow of

all currents into it, and the cerebral sinuses become thereby gorged with blood. The veins leading into these sinuses cannot empty their blood freely, which however is still supplied in usual quantity, by the uninterrupted action of the heart; and therefore these veins must, as well as their supplying arteries, become distended. Thus, at each expiration, the amount of blood in the cranial cavity and brain is at its maximum. The difference between the minimum of inspiration, and the maximum of expiration is the cause of that distension of the brain which constitutes the expiratory cerebral pulsation.

This distension within the cranial cavity, thus caused, produces pressure necessarily on surrounding parts, on the calvarium outside of the brain, and on the cerebro-spinal fluid, both inside and outside of it. Therefore strong expiration may force the cerebral substance out of the open skull, and the same pressure forces the movable cerebro-spinal fluid down into the spinal cavity, thus distending its membranes. Such are the phenomena observable, and their explanation, when the cranial cavity is not air-tight.

Do the same cerebral movements occur when the cavity is not air-tight? All grant that in this case like causes exist, and like results ensue so far as the blood is concerned, that it moves just the same, and that its amount momentarily varies just the same. All also agree that the cerebro-spinal fluid, especially the intra-ventricular and spinal is movable, that it is under the influence of a pressure of some kind, which impresses upon it a constant movement of flux and reflux synchronous with respiration. Thus out of the three cranial contents, which alone require consideration in this regard, blood, cerebro-spinal fluid, and brain, physiologists admit that in the air-tight cavity two do move, vary in their quantity, and therefore in the space occcupied; but contend that it is physically impossible that the third content, the brain, should vary in the amount of space it occupies. For motion of the brain requires space to move, and space cannot exist in an air-tight cavity, without the existence of that physical impossibility, a vacuum. Therefore follows that apparently logical deduction upheld for many years by nearly all of the ablest physiologists, that no cerebral movements can possibly occur in an air-tight cranium.

In my own opinion, the conclusion is illogical, and is refuted by both normal and morbid anatomy. The solitary fact, supporting the no-movement view, which, in my estimation requires serious consideration and refutation is the one established by Bourguignon's experiment, to be alluded to. But the facts supporting the movement view are, in my opinion, so strong, that even if unable to satisfactorily explain this experiment, I would still hold to these facts, bearing in mind that this same vacuum question was once before, as has been shown, the *pons asinorum*, passing which the whole profession lost itself for years following a false physical conclusion, deemed impregnable to logic; rather than follow the sole deduction which every day facts clearly pointed out.

But, to the proofs that the conclusion is illogical; and refuted by anatomy and pathology. Motion requires space, and space does not exist in an air-tight cavity; but most certainly this does not prevent something running in, as a corresponding amount runs out, thus keeping the air-tight cavity constantly full as physical laws exact. As one increases the space it occupied, the other decreases its space. Augmentation and diminution of the space occupied is motion; and this motion of augmented and diminished size, the brain receives from the varying quantity of blood sent into it, and the cerebro-spinal fluid is present to get in or out of the way, as the vacuum or plenitude may require. A body may move not only *in situ*, as the movements of expansion and contraction, but also from place to place. And whilst the brain has a movement of expansion, no doubt some motion from below upwards is also impressed upon it by the distension of the large arteries and veins at its base.

In granting, as is universally done, that the cranial vessels are momentarily distended, therefore moved in varying degrees, it seems to me exactly equivalent to acknowledging that the brain, of which these vessels are a considerable part, is also distended and moved. It is asserted that the brain cannot move, because its motion would cause a vacuum. Now, if motion of the brain every second would cause a vacuum, then motion of the brain continued through hours, days, weeks, however long and slight, would, for identically the same reasons, cause a vacuum. Well, this is physically impossible, say the theorists, and yet neither

they, nor any one deny that atrophy and hypertrophy of the brain are well established pathological facts. How can a brain become smaller or larger without motion *in situ?* Such brains have certainly moved, therefore morbid anatomy proves, that, argue as you please about motion in a vacuum, the brain, none the less, can, and at times does, have a movement of expansion and contraction in the *cranial cavity.* And if it can move, against logic, in weeks, why can't it move every second, with equal independence? Very surely this does not prove that motion of the brain *can* occur in the air-tight cranial cavity; and that these pulsatory movements are not physically impossible, which is the sole reason why it is contended that there are no such movements. The indication of normal anatomy on this point is very decisive. In the cranial cavity is a serous sac, which in every other cavity is recognized as one of bountiful Nature's kindly provisions to favor locomotion. The significance of this fact can no more be ignored, than could be the presence of a muscle in an organ whose functions were being investigated. Physicists may confuse the intellect beyond the ability to reason, but until they have explained the meaning of that serous sac, and the significance as to motion of atrophied and hypertrophied brains, I shall remain convinced that the brain can and does move in the physiological adult's cranial cavity. That these movements may be much less, when the skull is closed, than when opened, is probable.

In addition to Bourguignon's, another experiment, that of Magendie (1842), has a direct and interesting bearing on this subject. Both experiments have been often repeated and verified, but whilst the results are not disputed, the conclusions drawn from them are at variance. Magendie, filling a tube with colored water, introduced it into the spinal cavity. At every expiration the fluid mounted, and at every inspiration it fell in the tube, which, says Longet, proves that in expiration the cerebro-spinal fluid is ascending to, and in inspiration descending from, the brain; whilst Richet says it proves just the reverse, that in expiration it is descending from the brain into the spinal cavity, and *vicê versâ* for inspiration. The conclusion of neither is scientifically accurate, for the only correct inference is that when the fluid mounts in the tube, there is augmented pressure on it, without indicating in what direction the fluid which makes the pressure is flowing.

But when to this fact, that pressure is made on the spinal membranes in expiration, is added, the facts that have already been given as to the augmented quantity of blood in the brain, and the swelling out of the spinal membranes in expiration, there can be but one conclusion as to the direction from whence this pressure proceeds, it must be *from* the brain downwards to the spinal cavity.

Whilst writing this article, a vivisection of an alligator, two feet in length, clearly demonstrated that the pressure was downwards in expiration, and that in inspiration the flow was upwards towards the brain.

Bourguignon's experiment (1839) has served more than all other facts and reasonings to establish the no-movement view. Longet and others regard it as triumphantly conclusive that the brain is unvarying in its size, and immovable. Therefore as they grant that the blood within the cranium is augmented in quantity in expiration, and contend (falsely) that at the same time the quantity of cerebro-spinal fluid is also augmented, they are forced to a very unsatisfactory explanation as to what becomes of this excess which is, that the brain is alternately condensed, and varified, that it varies in mass (weight), but not in its volume, or size. Bourguignon filled a glass tube, having a closed extremity, with water purged of air, attached this hermetically to a hole in the skull, placing the contents of the tube in contact with the contents of the cranial cavity, and making the tube itself a part of the air-tight cranial cavity. To the tube was attached a stop-cock, by turning which air could be admitted, and the cranial cavity could be thus at will placed in the same condition as when accidents, or operations removing part of the skull, expose it to the air, and to our observation. All attest that, under these circumstances, there are no movements in the contents of the tube, unless the stop-cock is turned, and air is admitted. In the latter case, the cardiac and respiratory pulsations of the brain, at once indicate their power by corresponding movements of the water in the tube. Now, these facts are indisputable, and the inference therefore seems irresistible, that in the ordinary air-tight condition of the adult skull, there are no cerebral movements. Therefore reasons are imperatively demanded, why, whilst admitting

these facts, the conclusions are disputed. The maxim, so often in the mouth of my old teacher, Claude Bernard, has here its place: "Theories, explanations, conclusions, may be, and are very often, false, but facts well observed cannot be; accept then the facts, and if they be at variance with theories and conclusions, change these to suit the facts, and not the facts to the theories." I accept the fact, but I cannot accept the inference, because it is, in my estimation, contradictory to those facts which have already been cited. The whole question belongs to Physics, to whose adepts my own incompetence forces me to leave it; but the explanation given by Richet shall be presented in his own words literally translated: "It then would be necessary, in order that the liquid should oscillate in a tube presenting these physical conditions, that a vacuum should be produced in the cranial cavity, which is physically impossible. The very ingenious experiment of Bourguignon demonstrates this positively, but nothing more. To conclude from it, that in the cranial cavity no *displacement* of fluid is effected, and that the brain remains perfectly immovable in its bony box, would be an unjustifiable inference." Repeating and confirming Bourguignon's experiment, he says that though all oscillation in the tube was absent, that there nevertheless seemed to be cerebral movements synchronous with respiration. But though this explanation should need explanation, and were far more unsatisfactory, I should still remain convinced that the cerebral movements can, and do take place. That in these movements the spinal cavity plays the part of an escape pipe to the cranial cavity, and that the cerebro-spinal fluid is a compensating balance to the intra-cranial blood, and the cerebral movements caused by this blood. Therefore I believe that there is an antagonistic connection between the capacity of the ventricles, and the quantity of blood which by expiration is detained in the cranial cavity; and that these ventricles, and the cerebro-spinal fluid, passing and repassing from them to the spinal (rather than to the cranial) cavity, have thus a far more important physiological significance, than is generally assigned them. A comparison between the amount of blood detained in the cranial cavity by expiration, and the amount of fluid which the ventricles can contain tends rather to sustain, than refute this view. True, the esti-

mates of both can be but approximative, yet even these may serve to give at least "a smell at the truth." Say, the left ventricle discharges at each contraction four ounces of blood, and that one fifth of this goes to the brain. Then, since when expiration is not exerting its influence the blood flows out as freely as it enters, there could be no notable accumulation of blood in the brain (not enough to produce the respiratory pulse), except during the time of expiration, one to two heart's beats. This one to two hearts' beats would add from less than one to one and half tablespoonsful of blood to the quantity in the cranial cavity. The capacity of the ventricles is certainly equal to this, and Nature has provided, at the posterior part of the fourth ventricle a small but adequate hole for the communication with the spinal cavity for the passage and repassage of this amount of fluid; and has also provided the necessary quantity of fluid.

From the facts and views stated, it follows that one at least of the functions of the ventricular cavities is to furnish space for the movements of the brain; providing means for the entrance and exit of a fluid which,—by its passage out relieves the brain of that pressure which the blood, at its maximum expiration would otherwise exercise upon it;—and by its passage back and into these cavities responds to the suction force produced by that effort to cause a vacuum, which the minimum quantity of blood in inspiration tends to produce.

ART. X.—*A Case of Extensive Colloid Cancer developed in the Connective Tissue of the Peritoneum, embracing the Omentum, Liver, Spleen, Pancreas, Kidneys, Bladder, Rectum, Colon and Stomach:* By PAUL F. EVE, M. D., Nashville, Tennesee.

M. NELATON, the present surgeon to the Emperor of France, and certainly one of the most distinguished, if not the first now in the world, states in his *Elémens de Pathologie Chirurgicale*, that Lænnec designated a peculiar variety of Cancer by the name of *Colloid Tissue:* called by Miller, alveolar carcinoma, and by Cruvelhier, gelatiniform cancer. The term of Lænnec has been gen-

erally accepted, because of the striking resemblance of its chief physical structure to glue. Of the five varieties of carcinoma, viz: epithelioma, schirrus, fungus hæmatodes, or encephaloid, colloid and melanosis, this takes the fourth position in frequency. In my experience of forty years, they are named in the order of their occurrence, and the two last seem to present a closer affinity than the other three, though the family relationship is marked in all. Indeed, the chief differences observed in the anatomico-pathological characters between colloid and melanosis were the peculiar black color or pigmentum, the more uniform globular shape and small size of the latter compared to the larger more expanded cells and greater infiltration of the former, into the surrounding tissues. It is owing to the infrequency of the colloid variety and the immense development in the case here reported, that its interest may consist.

The patient in this case was a near kinsman of the reporter; he was born of healthy parents, who reared twelve children to maturity, none of whom used whisky or tobacco; he was strictly moral, self-sacrificing, an industrious hardworking successful Georgia planter, and in his physical development weighed two hundred and fourteen pounds. With the exception of occasional slight attacks of billious diarrhœa, to which there is a family predisposition, he had had little or no sickness. The war drove him from his happy home, near Rome, Ga., and having desolated his beautiful farm on the Etowah, both armies occupying it several times during the continuance of the struggle, he returned at its close and commenced providing again for his family, in his sixty-fifth year. It now became evident to his friends that his strength was unequal to his industry, and that the wear and tear of life were seriously affecting his health. Early in 1866, he received a severe fall, striking the nates and hip, and severely jarring his back and body. He complained very much after this, of pain in the dorsal and lumbar regions, and want of a full control over his inferior extremities; although he still continued to labor, in rebuilding his houses, and upon other light work on the farm. He always however, attributed to this injury his subsequent distressing symptoms; and in this opinion, his very intelligent and excellent family physician fully concurred.

In June of the past year (1867), the patient met the writer in the city of New York, with the design of taking a sea voyage to try and improve his declining health, as his digestion was now quite impaired. Arrived there, he announced for the first time, that his doctor said he had an abdominal tumor; and my kind friends, Drs. F. H. Hamilton and Lewis Sayre of that city, were called in consultation. After careful examination, a written opinion was given of the case, stating that we believed he had a tumor of the omentum, but of this we are not positive; that it was probably schirrus, at least we considered it malignant. We do not think the patient could be benefited by a sea voyage, and advise his return home to Georgia. What we dreaded most in the case was the result of sea-sickness. Soon after this he was seen by Dr. H. F. Campbell, of Augusta, Ga., who did not differ materially from us in his opinion as to the nature and location of the abdominal affection. My last visit to the patient was made the 25th of last October, when I met Dr. Battey, his professional attendant. He was certainly no better at this time, there were several tumors apparently in the abdomen, which was much increased in size; some ascites and anasarca, with considerable emaciation and cachexia; yet that very day, our patient drove himself in a buggy ten miles, and walked another to and from the depot without the least complaint. He gradually continued to decline all winter; took a trip on the cars of five hundred miles early in May 1868; and I was preparing to meet him on his 68th birthday, the 24th of last June, when the report of his sudden death on the 12th of that month, reached me.

Dr. B. wrote me that he was called to our patient five days before his decease; found him cheerful and evidently not expecting so early a termination of his sufferings, as his physician himself believed. He complained mostly of food oppressing him, an inability to take much on the stomach at a time, but particularly of obstinate constipation. He had, too, much increase of the dropsical effusion in both the abdomen (which was greatly distended), and the general system. Repeated doses of salts were prescribed, with aggravation of symptoms: then, enemata of same which could not be retained and brought away no fæcal matter. On the day of his death, he rose at his usual early hour,

walked into the piazza, drank water, and after reading the Bible, remarked to his wife "I am now on my last journey," commenced rapidly to sink, and died at five P. M., 12th June, twelve days less than sixty-eight years of age.

There was no regular cadaveric autopsy of the case; Dr. Battey was called upon to reduce the size of the body, so that it might be placed in a metallic case, and this fortunately led to the discovery of the probable actual cause of his death, and exposed the immense colloid growth outside of the peritoneum. The cavity contained about sixteen pints of serum. There was no acute peritonitis observed anywhere. The small intestines were greatly inflamed with apparent impassable occlusion of the colon from enteritis, producing fatal obstruction in the alimentary canal. The abdominal tumors which had been so repeatedly examined proved not to be schirrus, neither were they confined to the omentum, nor did they effect the mesentery. Besides three large tumors in the anterior wall, there was a continuous colloid mass in the connecting tissue of the peritoneum over the liver, stomach, pancreas, spleen, kidneys, bladder, and the whole length of the colon down to a portion of the rectum. On opening the abdominal cavity and after the serum had escaped, nothing was observed but the small intestines and bladder, for they alone could be seen, all the other viscera being imbedded and obscured by the colloid mass. The tumors we felt were interposed between the abdominal muscles and peritoneum, and were small and insignificant compared to the greater bulk which occupied the diaphragmatic, lumbar and pelvic regions. The omentum was adherent to and fused into the anterior tumor, which thus formed the largest of the three, the other two, about the size of large oranges occupied the left and right hyprochondriac regions. The thicknes of the central mass was about an inch and a half near the umbilicus and half an inch at its margin, and in its longest diameter perhaps fourteen or fifteen inches. Their colloid character was plainly marked. The mass was quite firm in places and exuded a rather stiff jelly when cut. In the iliac fossæ, it was softer and gave way under the finger, presenting a thin, slimy, jelly-like semi-fluid substance. The whole cancerous mass weighed 40 or 50 pounds, the estimate of my esteemed friend, who made the examination, and to whom I am so much indebted for these interesting particulars.

The history of abdominal tumors, like that of gunshot wounds, will never be completed. The account of the above one is certainly full of interest in its origin, development, diagnosis, etc. While none of us who were consulted about the case may ever have suspected it to be *colloid cancer*, yet all believed it to be malignant, and also that the omentum or mensentery was affected. The only case at all analagous to it, which I have yet found, is a brief account copied from the Boston Med. and Surg. Journal into the Southern Med. and Surg. Journal, Jan'y 1849, which I then edited at Augusta, Ga., of a man who had recently died in Oswego, N. Y. from an abdominal tumor which weighed *one hundred and fourteen and a half pounds.* The patient had also received a strain about two years before his decease, when his abdomen commenced to increase in size, and finally measured six feet eleven inches in circumference. The case was taken for one of dropsy, but an examination revealed it to be of that variety of carcinoma known as *colloid.*

Dr. Gross also in his excellent and voluminous work on Surgery, mentions two cases not unlike ours. Referring to *colloid cancers*, he states that in the peritoneum, he had seen, on two occasions, enormous tumors of this character, one of which weighed not less than twenty five pounds. The abdominal viscera were nearly concealed by the mass which was almost a foot in length, more than eight inches in breadth, and about three inches in thickness. These patients were respectively forty and forty nine years of age.

I regret not being able to obtain what Mr. Graham published in the British Med. Journal, 1866, regarding the class of colloid substances.

The chief peculiarities of this variety of malignant disease are:

1st. Its diagnosis is quite obscure, particularly so in its early stages. It comes, however, in advanced life and from a cachectic condition of the system induced by defective alimentation. With the exception of encephaloid, like the other varieties it is slow in its progress.

2d. As in fungus hæmatodes and melanosis, the pain of colloid is not so acute or constant, as in schirrus and epithlioma.

3d. The greatest however, by which it may be distinguished

from all others are, its attacking the abdominal viscera, especially the tissue outside the peritoneum, the immense size these tumors attain, and the glue-like, jelly-like substance of the mass which soon infiltrates the adjacent tissues.

ART. XI.—*Additions to our Knowledge of the Chemistry of Respiration:* By Prof. J. W. MALLET.

PATTENKOFER and VOIT have published the results of a series of experiments upon the absorption of oxygen and evolution of carbonic acid by man under conditions of sleep and wakefulness, which seem to deserve greater attention than they have yet received on this side of the Atlantic.

These experiments were conducted with the aid of the fine apparatus constructed at Munich, under the direction of Pattenkofer specially for the investigation of the function of respiration and transpiration, and the principal point of novelty consisted in carrying each experiment through an active period of twenty-four hours, separating the results for the day (six A. M. to six P. M.) from those of the night (six P. M. to six A. M.). The persons submitted to experiment were:

1.—A strong, healthy workman, of twenty-eight years of age, and weighing sixty killogrammes (say one hundred and thirty-two pounds).—He was experimented upon:—*a.* When but lightly occupied during the day spent in the enclosed chamber of the apparatus, (day of rest.)

b. When undergoing laborious exertions during the day (working day.)

2.—A man, twenty-one years old, suffering from diabetes mellitus.

3.—A leucæmic patient (male) of forty years of age.

The results are given in condensed form in the following table, —the weights being solid in grammes:—

Time of Experiments.	Evolved.				Absorbed	Number of parts of oxygen in carbonic acid given off for every 100 parts of oxygen taken in and absorbed from atmosphere.
	Carbonic acid.	Water.	Urea.	Sugar.	Oxygen.	
	1*st* *a.*---(*Healthy man in repose during day*).					
Day.....	532. 9	344.4	21. 7	——	234. 6	175
Night...	378. 6	483.6	15. 5	——	474. 3	58
Total.....	911. 5	828.0	37. 2	——	708. 9	94
	1*st.* *b.*—(*Healthy man working hard during day*).					
Day.....	884. 6	1094.8	20. 1	——	294. 8	218
Night...	399. 6	947.3	16. 9	——	659. 7	44
Total.....	1284. 2	2042.1	37. 0	——	954. 5	98
	2*d.*—*Diabetic patient.*					
Day.....	359. 3	308. 6	29.6	264. 4	278. 0	94
Night...	300. 0	302. 7	20.2	148. 1	294. 2	74
Total.....	659. 3	611. 3	49.8	394. 5	572. 2	84
	3*d.*—*Leucœmic patient.*					
Day.....	480. 9	322. 1	15.2	——	346. 2	101
Night...	499. 0	759. 2	21.7	——	329. 2	110
Total.....	979. 9	1081. 3	36.9	——	675. 4	105

According to these figures, so far as the results of observations made upon a single individual can be taken to represent the general rule, the quantity of carbonic acid evolved during the day is about double the amount of oxygen taken in, while the inverse relation holds good during the night. Of the total amount of carbonic acid given off in twenty-four hours, under condition of repose, fifty-eight per cent. belongs to the day, and forty-two per cent. to the night. Of the oxygen absorbed during the same time, thirty-three per cent. is taken in during the day, and sixty-seven per cent. during the night. Under active exertion this contrast becomes even more strongly marked,—sixty-nine per cent. of the carbonic acid being given out during the day, and thirty-one per cent during the night—while thirty-one per cent of the oxygen is absorbed during the day, and sixty-nine per cent. during the night.

On the day of work there is a total amount of 373 grammes more carbonic acid evolved, and 246 grammes more oxygen absorbed than on the day of rest, but the excess of carbonic acid was principally given off by day, and the excess of oxygen chiefly taken up by night. The deeper and more frequent respiration during active bodily exertion depends, therefore, not upon the

increased need of oxygen, but upon the necessity of getting rid of the excess of carbonic acid produced, and of moderating the rising temperature of the blood. As the amount of oxygen taken up during the day does not vary much between conditions of repose and exertion, so also there is no great variation in the quantity of carbonic acid exhaled during the night,—the latter appears to correspond pretty nearly with the quantity of oxygen taken up by the day.

The evolution of water on the working day amounted to twice and a half that on the day of rest, although on the former of these days but 600 grammes more water was drunk than on the latter, and this excess in water evaporated was divided pretty equally between the two halves of the day.

Urea was excreted—like carbonic acid, and pretty much in proportion therewith—in greater abundance by day than by night; and the quantity was not increased by exertion as compared with repose. This last result agrees with that obtained by Voit for the lower animals (dogs), and has of late been confirmed by Fick and Wislicenus as well as other observers.

Pettenkofer and Voit conclude that during the night oxygen is —in quantity proproportional to the amount of albuminoid matter received from the food consumed—accumulated in the body, and *stored up* for the requirements of the ensuing day—from which it at once follows that correct results as to the balance between ingesta and egesta of the animal body can only be obtained by extending an experiment over at least twenty-four hours—observation for shorter periods can yield only unintelligible numbers.

The results in the case of the leucæmic patient show clearly that the division between day and night, of the observations for twenty-four hours, render evident functional derangement which would not be perceived on examining simply the total results for the whole period.

Petenkofer and Voit conclude from their experiments with diabetic patients (not limited to those recorded in the above table) that diabetes mellitus depends upon a diminished capacity for fixing oxygen on the part of the blood, corpuscles. When supplied with only a normal amount of food, a man suffering from diabetes does not take up a sufficient quantity of oxygen to meet

the requirements growing out of the movements of the body and the production of animal heat,—he is therefore obliged to consume large quantities of food in order to bring up the amount of oxygen (temporarily fixed in loose combination with albuminoid matter) merely to the standard of the man in health,—but this amount is then insufficient for the complete combustion of the non-nitrogenous portion of the food, or non-nitrogenous material produced by chemical change within the body, the latter being present in such excessive quantity.

Pettenkofer and Voit are of opinion that under all circumstances, sugar alone is burned in the body—this sugar being derived either from the carbo-hydrates, of the food, or from the fatty constituents of the food or of the body itself, or from the fat produced by chemical decomposition of albuminoid material. In health the combustion is perfect; in diabetes it is only partial.

In this condition of disease, therefore, it is not the *formation* of the sugar that is abnormal (or at any rate only the unusual quantity corresponding to the normal supply of food), but its *excretion* without having undergone oxidation in the body.

As the albuminoid substances seem to favor an increased absorption of oxygen, a view supported by late experiments of Henneberg, Kuhn and Schultze, upon the respiration of oxen under varied conditions as regards food, an abundant supply of nutriment, rich in albumen and its congeners, must be favorable to the diabetic patient, even though the amount of sugar excreted be only diminished in consequence.

Many other interesting suggestions are derivable from an inspection of the table of numerical results given above, which will well repay careful examination.

It is to be expected that these results are merely an earnest of those to be hereafter published in the progress of the valuable researches in question, which are laid before the Bavarian Academy of sciences and published in its Transactions.

ART. XII.—*Secondary attack of Small-pox after Vaccination:* By S. S. HERRICK, M. D., New Orleans.

The occurrence of variola and varioloid after vaccination is so

common as to excite no remarks, further than as regards the importance of repeated vaccinations as an additional safeguard against the danger of infection. The following case, however, though not unprecedented, belongs to a class so rare as to deserve a place among the exceptions to the rules governing this well-defined disease.

On the 8th of July, 1863, I was invited by a medical friend to visit with him a negro man, about 28 years old, suffering with a mild attack of modified small-pox. He had been seized, on the first of July, with fever, and pain in the back and lower extremities. On the fourth, the eruption made its appearance, and the fever and the pains subsided; at the date of my visit he presented a scattered eruption, from head to foot, the pustules varying in size from a duck-shot, downward, and those on the face already beginning to dry up. Since the appearance of the eruption there had been no constitutional disturbance. No other cases were known in the neighborhood, and the man was unable to account for the infection.

According to his own statement, he had been vaccinated in infancy, and he exhibited an ill-defined mark in evidence, on the left arm. He also stated that he had had an attack of small-pox in November, 1864, and the pits on his face gave indubitable testimony of the truthfulness of this statement.

ART. XIII.—*Sycosis, and its Treatment:* By WM. MASON TURNER M. D., Philadelphia.

THIS affection of the skin, known in English as *Sycosis* or *Barber's Itch*, in French as *Sycose*, in German as *Feiywarzen*, in Italian as *Sycose*, in Spanish as *Sicosis*, may be defined as an affection of the pilous follicles characterized, by a successive eruption of small, sharp-pointed pustules, scattered or disposed in groups, over the chin, the upper lip, over the sub-maxillary region, and the lateral portions of the face. Dr. Wood says: In other words, it is confined to the hairy portions of the face," including, of course, the eyebrows.

It corresponds to the *dartre pustuleuse mentagre*, of Alibert

(Nysten. *Dictionnaire Med.*) The affections with which it may be confounded most generally, are ecthyma and syphilitic pustules. Other diseases of the skin may be mistaken for sycosis, but the differential diagnosis between it and the forms of skin affection, is the most difficult, generally speaking.

From ecthyma, it may be told by the greater size of the pustules of the former—and by the larger, thicker, and more adhesive crust noted in that disease. From syphilitic pustules it may be recognized by the fact that the latter (syphilitic pustules) are without the heat and pain of the disorder under consideration, are also flatter, slower in their march, surrounded by a copper-colored border, and situated in other portions of the face besides the hairy parts. (Wood.)

By the best authority, barber's itch is not considered contagious, though some prominent men of the medical world have vigorously upheld that idea. M. Foville is certain that he saw a number of cases, in which the disorder had been transmitted by the use of *one* razor, with which a man suffering from the affection had been sometime before shaved. M. Gruby thinks that the disorder is due to a cryptogam in the beard. M. Bazin, that in the ordinary run of cases, it is attributable to a microscopic plant growing between the hair and the capsule, in the hair capsule—hence his name for this plant is *tinea sycosa.* It was formerly thought that it was due simply to filth, and looseness of habit, but this idea has long since exploded. I, myself, have seen it in persons most exemplary, even fastidious in personal habits. I have seen it in the eye-brows of delicate women and children, where to suspect debauchery or filth would be simply an absurdity. In my opinion, the scrofulous diathesis has most to do with it. The *exciting* causes, of course, are any local irritation, or whatever may occasion an habitual and undue flow of blood to the parts—the follicles then being forced, we might say, to a speedy germination, or, more properly, *maturation.* Hence it occurs most frequently in *men*, and in men who shave frequently with insufficient soap, and badly set razors. And so experience teaches us.

Barber's Itch has been known for centuries upon centuries, and in its treatment, has proved itself, of old as of to-day, exceedingly

obstinate and vexatious—a great deal of this being due to the impatience of the subject under treatment. As it is unsightly, and suggestive, say what we may, of filth, and oftentimes of something worse, the patient is, very naturally, whether not-guilty or guilty of the "soft impeachment," anxious to get rid of the disfigurement, for, so far as pain and suffering is concerned, it can, in the generality of cases, scarcely be dignified by the title of a *disease*. Whatever then may tend to throw light on the affection so far as regards its treatment, should be both interesting and acceptable. It is the aim of this paper to meet that point, briefly.

Ambroise Tardieu—good authority—says: "Mentagra (or sycosis) is an affection which has been known from ancient times (Pliny) and reported to be contagious, but without sufficient proofs. It consists of a successive eruption of small, pointed pustules, on the upper lip, the chin, and, generally speaking, those parts occupied by the beard. An exudation which is not slow in forming more or less extensive crusts, succeeds these pustules. During the progress of the disorder, the skin becomes swollen, and covered with tuberculous pimples, upon which new pustules develope, and which showing red and crusty surfaces, give to the face a hideous and characteristic aspect. The hairs (beard) are destroyed more or less.

Mentagra is in general of a long duration, and has a marked tendency to return. The beard should be *trimmed* and the razor avoided. Emollient applications, mild alteratives, aided by laxatives, and an appropriate regimen, constitute the most successful means of treatment." *(Manuel de Pathologie et de Clinique Médicales, par Ambroise Tardieu.)*

The celebrated Piorry, in his own peculiar style, says: "Among individuals whose beard is stiff and thick—among those who shave badly, too often, too close, and in the wrong direction, or with razors which are not well sharpened; among persons again, who do not use enough soap-foam, or who make a practice of dusting their faces with irritating cosmetics, we often see, on the chin, on the lips, or on the cheeks, little red elevations similar to those to which reference has been before made, but with this difference, that we see in their *centre a hair recently cut*. When shaving is repeated the inflammation continues; the beard

dragged by the razor irritates the bottom of the cavity where it is formed, and the corresponding *trichadenes*, become in twenty-four or thirty-six hours, the seat of small abscesses. These pus-like formations are raised, elevating the epiderm, opening and forming scabs, below which is a small excavation, which if the disease persists, ulcerates. . . . . Finally, chronic conditions are the result, such for example as congestion, ulcerations, indurations, fistules, hypertrophies, atrophies, etc." *(Traité de Médecine Pratique, par P. A. Piorry.)*

Piorry's treatment is, for the most part, in ordinary cases, topical, and the remedy the pointed stick of the nitrate of silver, applied cautiously but thoroughly.

Dr. Wood says, that especial attention should be paid to the general health of the patient, and his habits so regulated as not to act as excitant causes. Bleeding and moderate purging according to condition of patient—blue mass or calomel in small doses, followed by saline cathartics. He recommends tonics in chronic cases, and sometimes, very cautiously, Donovan's solution. Scissors, and not the razor, should be used—the latter *abjured*. Locally he recommends demulcent lotions *at first*; as the complaint advances, more stimulant preparations, such as diluted alcohol, diluted spts lavender, cologne water, a solution corrosive sublimate in alcohol and water, and the different ointments, etc., etc.

Among the best *local* applications for Barber's Itch, I beg leave to append the following:

I. The Sulphuric Acid Ointment of Bragnatelli, which is—

℞ .....Ol. Oliv.....℥ viii.
Add gradually, constantly stirring,
Acid sulphur.....℥ v.

Let it stand a day, wash it well with tepid water until it will not redden Litmus paper. Use it very delicately once a day—small portion.

II. The Chlorine Water of Augustin, which is—

℞ .....Chlorine water.....℥ i.
Lard.. .....℥ viij.

M. Rub well, and apply at night.

III. The Lime Ointment of Ravino, which is—

℞.....Lime.....ʒi,
Linseed oil.....ʒ iij,
Mucilage of quince seeds.....ʒ ij.
M., and apply at night.

IV. The Lime Ointment of the Ferrara Ph., which is—

℞.....Calcis and sulphuris.....aa ʒ ij,
Sodæ Murias..... ʒ i,
Adeps..... ℥i,
Ol. Olivæ..... ℥ij.
M. S. as a friction at night.

V. The Lotion of the Corrosive Sublimate of Good, which is—

℞.....Hydrarg. chlor. corros..... ʒi,
Aquæ distillat..... f ʒ vj,
Solve bene, et adde,
Ammon. murias..... ʒ ij,
Potass. Nitras..... ʒ ss.
Dissolve. Use as a wash, once (at night).

VI.—Ointment of Carbonate of Potassa of Brera, which is—

℞.....Potass. Carb..... ʒ i,
Sulphur..... ʒ ij,
Adeps..... ʒ iv.
M. Apply at night.

(This is likewise one of the best ointments ever used in common scabies. It is as "old as the hills," but none the worse for "a' that").

VII. Mixture of Sulphuret of Sodium and Sal Ammoniac of Van Mont, which is—

℞.....Sodii sulphuret..... ʒ i.
Ammon. Mur..... gr. L.
Dissolve each in six ounces of water; mix the solutions, having first filtered them. Use lightly as a wash.

The above preparations will be found very good in the treatment of sycosis topically. They have been used considerably already, and for one I know their value. I should say that each of the above has also been used with great effect in scabies.

But for my part—and I now come to what experience has taught me, I much prefer the following line of treatment which I have never yet had to fail in a single instance.

Last summer and fall, I had a good many well-defined cases of sycosis. The affection seemed almost epidemic, and for several reasons I was led to believe that it *was* contagious. However, be that as it may. For some days my remedies were unsuccessful—and put sadly to it! I went to the books. Result no better. I then hit on the following, for which, so far as I know, I am alone responsible.

In the first place be the condition of the system what it was, I ordered trial:

R.....Potass. chlorid..... ℥ ij,
Sys. Sarsaparil. Co ..... ℥ iv,
Hydr. chlor. corsi ..... gr. ½,
M. S. A teaspoonful three times a day.

I continued this one week, and then directed to-wit:

R.....Cold Infus. Rad. Columbæ..... ℥ iv,
Tinct. Guaiac..... ℥ i,
Sodæ Bicarb..... ℥ ij,
Aquæ Menth..... ℥ ij,
Solve bene et adde,
Syr. Sacch..... ℥ ij,
M. S. A tablespoonful four times a day.

At the same time I directed that the face should be clipped clean of the beard with curved scissors—washed several times a day with pure sapo. hispan, and *during the day*, the inflamed points anointed with—

R.....Glycerine..... ℥ ss,
Elix. Opii..... ℥ ss. M.

At night, the face again thoroughly washed with soap (Castile) and warm water, and afterwards with a solution of sodæ bicarb., and then applied thoroughly the following ointment:

R.....Unguent Hydr. Nitrat..... ʒ i,
Unguent Iodin. Co..... ℥ ij,
Unguent Picis Liquid..... ℥ viss,
Morph. Sulph..... grs. ij.
Sodæ bicarb..... ʒ i,
M. Tere bene. S. Apply at night, *well*.

Now, compatible or incompatible, the above ointment, with the internal treatment as given before—a most magical—to *me* as a practitioner, delightful effect followed. Never, after that, had I

any trouble whatsoever with sycosis. And before I close, I would state that I have found the above exeellent treatment in aene adoleseens.

For what the above is worth, I give it to the profession.

ART. XIV.—*Hypertrophy of the Right-Half of the Body in a Child aged four years, first noticed shortly after Birth.* Reported to the Medical Association of New Orleans, at the meeting held August 5, 1868: By SAMUEL LOGAN, M. D., Professor of Surgery, New Orleans School of Medicine.

WHEN passing through Brashear City, in this State a few days ago I was kindly invited by Dr. White, a practicing physician of that place to see the following case.

O. B., daughter of Mr. T. B., at present a resident of Brashear City, age 4 years; well grown for age—parents, as well as self, are natives of Louisiana; has seven brothers and sisters, all of whom are healthy. The parents are both healthy in every respect; the mother has borne twins three times, the child who is the subject of these notes not being, however, one of the twins. The family history as regards health is exeellent, except that one of the mothers' brothers has two out of six children deaf and dumb, but the mother of these children is delieate and in no way related by blood to the family of this child.

About ten days after birth, the right-half of the person of the infant was found to be larger than the other, and sinee that time the disproportion has seemed steadily to inerease. She is now a strong hearty child; but the disproportion is marked in every particular, more so, however, when the opposite extremities are compared. One leg is about an ineh larger than the other causing a peculiar gait, and the foot requires a shoe of at least one and a half or two sizes larger, and the two arms and hands show a corresponding disproportion. The differenee is, of course, not so marked, but ean be readily seen, in the head, the eyes, the nose, the tongue and the trunk all the way down. The only very serious attack of sickness from whieh the child has ever suffered she experienced in September, 1867, when she was

very ill with Yellow Fever having had black hæmorrhage by the bowels. I am informed that her recovery from this attack was tedious, and that about ten days after convalescence was considered established, a portion of the alveolar process of the lower left maxillary containing one incisor and a canine tooth, the latter embyonic, sloughed off. Since this she has been restored to her usual good health. Deeming the case a remarkable one, never in fact having heard of a similar, I took a few notes embodying the above facts, and beg leave to report them without comments to the Association.

[The only case even approximating to the above of which I have been able to find any record since making this report to the Medical Association of New Orleans—and to which my attention has been called by my friend, Prof. J. Dickson Bruns, of this city—may be found in the American Journal of Medical Sciences, for July, 1868, page 271—where it is stated that Dr. Pessaner, in Virchow's Archives, xxxvii, page 410, relates an instance in which the hypertrophy was confined to the left side of the head alone and was conjecturally attributed to an injury inflicted on the fœtus in utero. S. L.]

CORRESPONDENCE,

THE following letter was kindly transferred to us by Dr. Saml. Choppin:

MEADVILLE, MISS., July 7th, 1868.

DR. CHOPPIN—

Dear Sir: I wish to give you an account of a case which came under my observation yesterday. I suppose it would properly be classed in those cases of monstrosity termed *monstra deficientia.*

Mrs. F. W———, a *primipara*, was taken with labor about 2 o'clock A. M., on yesterday, and called to her assistance a midwife living in her immediate neighborhood. The case progressed very well for some time, when the old lady discovered she had a head and foot presentation, *one* foot presenting at the same time with the head. Upon examination she could only find one

foot, searching in vain for the other. This alarmed her considerably, and she requested Mr. W. to get assistance as soon as possible. I was summoned in haste to the aid of the old lady. Upon arrival I found things as above stated, and came to the conclusion, very naturally, that it was a case of twin labor. By the assistance of a lady present, to press against the foot, to prevent its descent, the head readily passed the inferior strait, and a male child was born, perfect in every particular, weighing, as I judged, about five pounds. Upon farther examination but one foot of the other child could be found. The efforts of nature, however, soon brought an end to affairs by relieving the mother of the second; and disclosed to our astonished vision, another child, perfect from the *epigastric* region up. Perfect chest, arms, hands and head; the left abdominal *parietes* perfect, the left thigh, leg and foot perfect. The right abdominal *parietes* wanting, the right thigh, leg and foot wanting; the right cotyloid cavity was filled with a dark gelatinous substance, and the whole of that region presented a dark livid appearance, covered with a membrane. The abdominal viscera, liver, intestines, etc., falling out, the child of course, though born alive, lived only as long as the life supply from the placenta lasted, which did not exceed two minutes. On the right side of the pelvis, and about level with *iliac crest*, was something resembling a small foot, with the plantar surface outward, and detached for about half its length, on the end of which was a single toe. The testes were well formed, the scrotum entire, with the exception of a very small aperture in the right side of the sack, through which the testes on that side could be seen. The penis was entirely wanting, not a vestige of that organ was to be seen. The bones of the pelvis were as fully formed as usual at birth.

Here is a case for the considertion of the physiologist! There are many hypotheses entertained as to the origin of monstrosities. They have been attributed to the influence of the maternal imagination on the fœtus *in utero*. To accidental changes experienced by the fœtus, at some period of its uterine existence, and to a primitive defect in the germs. The second, says Dunglison, seems to be the only one that is philosophical. Now, if that be so, what "accidental change" could possibly have

transpired to produce such extensive *absorption* as of one-half of the abdominal parieties; a thigh, a leg, and a foot? For, to have produced a change, they must have existed. Upon such an hypothesis, how could the foot have become attached to the back near the sacrum? This is one of the freaks of nature, that leaves us completely enveloped in mystery and doubt—and as Doctors are supposed by the common people to know everything, I was interrogated very closely by the company present as to the probable cause of the phenomenon before us. Of course, I honestly confessed that I was unable to account for it.

I have never in all my ramifications through medical science met with any thing like the above. The other child is perfect and living, while its fellow is so deficient. Aside from the above I make no comments, but, through you present the case to the physiological world.

Letter from New York.—No. 1.

NEW YORK CITY, August 25, 1868.

Dear Journal—Among the many new charitable institutions that are constantly being projected and erected in our midst, none is of greater importance or more full of interest than the new Asylum for Inebriates which has lately been built on Ward's Island, by the Commissioners of Public Charities and Correction of New York City. Sadly feeling the urgent need for such an institution, the Commissioners have been vigorously pursuing this undertaking, until now the Asylum is finished and open for the reception of patients, and it is one of which any State might well be proud. The building is situated on the Southerly end of the Island, built of brick on the pavilion plan, the centre building being four stories high. On the first floor are dining-rooms, reception rooms, offices and library, and in the wings, apartments handsomely furnished, for such as can afford to pay for superior accommodations. Also, on this floor are baths, closets and wash-rooms. The second floor contains a large chapel and rooms for patients, and on the upper floors are large convenient dormitories. The patients are divided into two classes, the paying and

the non-paying. Those who are able to pay are only charged the actual cost of their living. Their fare is plain and substantial. A fine library is open for the use of the patients from 9 A. M. to 9 P. M. The total cost of the whole institution has been $375,000, and it is capable of accommodating 400 patients. By the erection of additional wings 200 more can be accommodated. Cells with cushioned walls for the worst cases of delirium tremens are provided in the cellar. The system of treatment adopted is essentially the same as that pursued by Dr. Day at the State Inebriate Asylum, at Binghamton.

"Dr. Day's system rests upon the voluntary submission of the patient to treatment, together with an earnest desire and effort to aid his physician, by every means in his power, in the attempt which is made to restore him to a life of sobriety and usefulness; and he declares that experience has convinced him of the fallacy of seeking to accomplish the object through other means. Consequently, he objects to all compulsory detention of patients on the part of the friends or attendants, as such a course awakens at once a spirit of resistance, and the moral control through which alone the disease can be reached, is immediately lost. All institutions where a compulsory system by commitment is employed are associated in the minds of the public with prisons and criminals, and men of the better classes shrink from subjecting themselves to the odium which attaches to their inmates, or, being forced to enter, seek the earliest opportunity to escape. Upon admission to the State Asylum the patient is subjected to systematic treatment by which the ravages that excess has made upon his constitution are repaired as far as possible. When this preparatory course is finished, the real work of reformation begins; and, being placed in a condition to realize and appreciate the dangers and disadvantages of his former life, the patient, who is sincerely desirous to reëstablish himself as an active and useful member of society, is ready to receive that moral treatment by which his redemption is to be accomplished.

But men who are physically in health cannot be left unoccupied like convalescent patients in a hospital. They require occupation and amusement. Of the latter there is a full supply at Binghamton, and the bowling alleys, billiard rooms, ball ground, etc., are constantly in requisition. Little has as yet been done toward

supplying the inmates with regular and systematic occupation; and, sensible of this deficiency, many felt a strong repugnance to the life of indolence which they were compelled to lead. In addition to religious services and private advice, Dr. Day cherishes in every possible way an *esprit du corps*, which he considers his greatest aid in carrying out his plan. Through its agency he has succeeded in establishing a high moral tone among his patients, which is an efficient protection against deception, or the abuse of the liberties which he accords them. An infringement upon this self-imposed code of honor on the part of any one of their number meets with immediate condemnation from his associates, and by this combined action each individual at the same time gathers and imparts strength for the consummation of their common object. Such, imperfectly stated, is the system of treatment which Dr. Day has developed after ten years of experience—a system relying upon an earnest desire in the patient to throw off his terrible disease, and requiring his full coöperation for its success."

The Connecticut Hospital for the Insane, which is situated at Middletown, Conn., has recently been completed, and is one of the most perfect in the country. The ground for the foundation was broken only thirteen months ago, and the work has certainly been pursued with remarkable rapidity. Dr. Shew has been appointed Superintendent.

Insanity in Great Britain is on the increase. The various institutions of England and Wales record 33,213 insane patients on January 1st, 1867, against 31,917 in the previous year.

It is gratifying to learn of the marked and flattering attention that is being proffered our esteemed countryman, Professor Gross, of Philadelphia, by the most eminent medical men of Europe. A correspondent from Berlin, says, "when Professor Gross arrived and was introduced, Prof. Virchow stopped his lecture for nearly half an hour to talk with him,—a formality exceedingly unusual with the Professor. Indeed, his assistant says, that Virchow has never shown any one so much attention since he has known him. Langenbeck and Von Graefe were also exceedingly attentive to Prof. Gross, and at the Clinic of Prof. Von G., he had the opportunity of witnessing the rare operation of extirpa-

tion of a cysticeous cellulosa." Professor Gross was elected an honorary Foreign Fellow of the Royal Medico-Chirurgical Society of London, at its meeting on June 9th.

Did you notice, Mr. Editor, the treatment of Infantile Erysipelas by the use of the warm bath as lately reported in several of the European Journals? "The temperature of the bath should be at about 85°F, and hot water should be gradually added after the child is immersed, until the temperature is 105°–110°F. At the end of ten or thirty minutes, according to the age and strength of the child and the effect exerted by the bath, the child is removed and wrapped in a warm cloth for one or two hours. Generally the child sinks into a quiet slumber after the bath, but if it remains wakeful nothing is required but to give it by teaspoonfuls cool water from time to time. This treatment has had excellent results in Stockholm and Strasburg, and spares the little sufferers the nauseous drugs too often employed."

The health of this city is improving somewhat. Last week was considerably more favorable to life than the preceding, inasmuch as the excessive humidity of the atmosphere (74–100 of saturation) gave place to an ordinary degree of dryness, namely, an average of 55–100. The total mortality of the week was 643, 76 of these dying in the public institutions. In Brooklyn, the mortality was 260, exclusive of 40 deaths in the suburban streets and institutions. More than one-third of these were due to diarrhœal diseases, although the mortality from this source was not nearly so great as it was last week, when it is believed that many deaths were caused by eating diseased meat. Great precautions are being taken however to guard against all danger from this source.

"Dr. John O'Rielly, of New York, has offered, through the New York Academy of Medicine, a prize of six hundred dollars for an Essay on the Physiology and Pathology of the Sympathetic or Ganglionic Nervous System. It is open to all, and any who wish to enter the lists can obtain all further information from Prof. J. C. Dalton, 101 E., 23rd street, New York City. The time is limited to next first of March."

As we have lately seen some inquiries in a medical journal concerning the manner of making an æthereal solution of quinia

for the purpose of hypodermic injection, and as we have repeatedly used the same with much success during our term of service at Bellevu Hospital, we will give here the process as it is prepared in that institution by their accomplished apothecary, Mr. Charles Rice. It is made in the following manner: mix 364 grains of sulphate of quinia with 1 pint of water; add dilute sulphuric acid, and after all the quinia has dissolved, another pint of water. Now add cautiously aqua ammonia, until after brisk stirring, and blowing over the surface of the liquid (to dissipate any ammonia which might have collected there, as it would interfere with the "test by smelling,") there is a faint odor of ammonia still perceptible. Throw the whole on a filter, and wash with cold water until the washings are tasteless, (requires about twelve to fifteen washings.) The pulp which now contains quinia, sulphate of ammonia and water, is transferred to a graduate, mixed with 6 or 8 ounces of æther, and immediately, while in a state of fluidity, transferred to a glass-stoppered vial of about 14 ounce capacity. The graduate should be rinsed with a little æther, and this added to the remainder. The vial is now to be well shaken, water to be added to the amount of 4 ounces, and frequently shaken during four hours. Finally, by letting the vial rest for some time, there will be two layers, the upper æthereal, containing the quinia, and the lower, watery, containing the sulphate of Ammonia. Separate the upper from the lower, and keep it in a well-stoppered bottle, after having concentrated it to the required strength. Three hundred and sixty-four grains of sulphate of quinia correspond to three hundred and twenty-four grains of quinia; therefore, if we evaporate the æthereal solution to 324 minims, one minim will represent one grain of quinia. The separation of the two layers may easily be effected in a common male syringe without piston, by closing the orifice with the finger, filling it with the liquid, waiting until the two layers are well established, and then withdrawing the finger, and allowing the lower layer to flow away. One grain to one minim makes a too glutinous solution, therefore, we use the strength of one grain in two minims, and generally inject eight minims morning and evening. This will sometimes give rise to a small abscess, and causes considerable pain in some, but these are the only evil results from its use. We

certainly have had great success with it in summarily breaking up an attack of Intermittent Fever.

Students are beginning to come into the city to be in readiness for the Fall course of Lectures in the Medical Colleges, which commences about the middle of next month. As there is so little of importance just at present going on in the city, we have been obliged, Mr. Editor, to write such a rambling letter as is now before you, but our next, written amidst the active life and excitement of a new medical session, we hope to be able to make more interesting to the numerous readers of your valued Journal.

Yours very truly,

JAMES B. BURNET, M. D.,
Late House-Physician at Bellevue Hospital.

NEW ORLEANS, October 3, 1868.

Editors of the New Orleans Journal of Medicine.

GENTLEMEN: In the July number of your Journal, I find a letter to you from Dr. E. S. Gaillard, Professor of General Pathology and Pathological Anatomy in the Kentucky School of Medicine, the contents of which refer to an article written by me on the subject of "Diphtheria," and published in the April number of your Journal. Although I have always had, and still have, a natural antipathy for any controversy of this nature, I nevertheless consider it my duty to offer a few words in reply. He charges me with having criticised his "remedy," pathology and treatment of Diphtheria. I regret that Dr. Gaillard, sensitive of his reputation as a pathologist, has imagined intentions on my part which never existed. If he will read *calmly* my article over again, he will find no criticism, except what I have remarked in reference to an assertion he made concerning the nature of the disease in question; and then, I honestly, without any rancor or personal remarks whatever, contested his views by stating my own.

In his communication to you, he first undertakes to review in a sharp and somewhat sarcastic manner the composition of my article. To this I can only answer that I have never made any pretensions whatever to literary eminence, and, moreover, the lan-

guage in which the article was written is not the one I was taught by my mother.

Next, he charges me with having criticised a certain local application which, in his essay on "Diphtheria," is mentioned under the name of "Bromide of Iodine." Now, if he will refer to my article, he will find that instead of criticising his mixture, I have spoken in favor of it. The only remark I made—and certainly in the plainest and most innocent language, and without any particular motive of my own—was in regard to the strength of the ethereal solution of bromine which had not been mentioned. I can see no offence in this, and it must be obvious to any one that the strength of the solution is of some importance, as, for example, a mixture of *half an ounce of ether* and *half an ounce of bromine* must certainly produce a different effect from one consisting of *half an ounce of ether*, and only *fifteen drops of bromine.*

Next, I must refer to a point, wherein Dr. Gaillard has been wronged; however, not by me, but—though unintentionally as I believe—by yourselves.* I refer to a passage in my article—p. 272,—where instead of the "Bromine and Iodine mixture" the "bromide of potassium" has been put; in my manuscript it reads as follows: "Although I would have liked to try the Bromine and Iodine mixture internally, as recommended in Dr. Gaillard's essay, I preferred the other remedy, because etc."

As far as my views on "organization" are concerned, I think they are, though in a few words, plainly enough expressed in my article. Nevertheless, as there seems to have been some misunderstanding, I will add a brief explanation. I admit that the view I take of the formation of a crystal, or the fibrillation of fibrin, is broader than the one which is held, perhaps, by the majority of medical men. For my part, I recognize in these phenomena, the first attempt of Nature to arrange the atoms of matter, and in accordance to some existing immutable natural laws, into a definite form. In regard to exudation cells, or even nuclei and granules, I shall waste no more words, they being bodies which have functions to perform, must certainly be organized and capable of farther development. It is an undeniable fact that no body can degenerate before it has been generated, namely, before it has assumed a certain form after some given

* We acknowledge this to be an error of our own.—EDS.

type; in doing so, its particles must arrange themselves in certain positions, and hold certain relations towards each other, to produce that form which is *organization*.

I will also remark here that since the publication of my article on Diphtheria, I have examined some specimens of exudate which covered the tonsils in cases of scarlet fever, and have found them to consist entirely of fibrillated fibrin.

In presenting my views to the public, I, of course, expect them to be contested and criticised by others, and the idea of denying this right would never enter my mind; therefore, as far as Dr. Gaillard's criticism of my views is concerned, I shall never think the worse of him. The only criticism I have to make on his criticism is in regard to that host of authorities which, as auxillary forces, he brings in the field to combat me. To defend myself here, I can only say that, although I have ever *considered* and *respected* the statements of other observers, I have, nevertheless, whenever means and circumstances have permitted, always preferred to examine things for myself and form my own views in accordance. Among the auxillaries, Dr. Gaillard brings forward, I notice my two illustrious countrymen, C. Rokitansky and R. Virchow. Now, in regard to these two gentlemen, may I be permitted to state in this place that there exists no man who appreciates more the services these men have rendered by their enormous labors to science, none who reveres and admires more the persevering talent of Rokitansky and the brilliant genius of Virchow than myself; but, nevertheless would I not hesitate to differ with them in view on any subject, if I had sufficient reason to do so.

In conclusion, having thoroughly explained myself, I would beg leave to state that it is my desire to leave the subject where it now is, as the labors of my profession prevent me from devoting valuable time to unprofitable and useless discussion I shall therefore positively decline to again enter into this controversy. I remain, gentlemen,

Most respectfully yours,

H. D. SCHMIDT, M. D.

CHRONICLE OF MEDICAL SCIENCE.

CLINICAL AND STATISTICAL RECORD.

COLLATED BY S. S. HERRICK, M. D.

Selections from Cases Treated in the Surgical Wards of Prof. LOGAN, *at Charity Hospital.*

CASE 1.—*Remarkable Aortic Aneurism Protruding through the Thoracic Walls and Partially Reëntering the Thorax.*

(For the notes of the following case we are indebted to Interne Mr. W. Brown, for the earlier notes, and to Interne Mr. J. E. Morris, for the notes taken after July 1st—the latter gentleman having kindly furnished the report in full).

JOSEPH DESHART, aged 53, white; admitted May 17; medium height; rather pale and somewhat emaciated; general expression one of distress rather than pain; respiration and pulse about normal. One year ago, or thereabouts, he fell down a flight of stairs and severely contused the left side of his body and limbs, giving him much pain for a long time. Hæmorrhage from the lungs followed the accident.

Upon examination, a distinctly aneurismal tumor is found thirteen inches in circumference at its base—which rests against the right anterior thoracic wall, covering the space from the second to the sixth costal cartilages—six inches in its horizontal semi-circumference, and five inches in its vertical semi-circumference. The tumor has seemingly forced its way through the intercostal spaces, somewhat displacing the sternum.

The recumbent position was enjoined, and the heart's action was reduced by means of veratrum viride to about forty strokes per minute. Full diet was ordered.

May 20th. The veratrum was continued to this date; but, while the frequency of the pulse is reduced, it is thought that the violence of the aneurismal throb is if any thing increased; and as the medicine also impairs his appetite, it was stopped and tinct. digitalis, gtt. xx every two hours was ordered, its effects being watched and the dose and intervals lessened or increased according to circumstances.

June 1st. The digitalis acts well and does not derange the appetite. Its administration was stopped at intervals to avoid cumulative effects. The tumor seems about the same as at last date..

June 10th. The digitalis has begun to disagree with the patient, and the tumor has also increased. Stopped the digitalis.

June 29th. The patient has at intervals taken sufficient digitalis to lessen the pulsation and produce intermittency of pulse, its use being stopped as soon as it produced marked debility. The tumor has, however, continued to increase and now measures fourteen inches in its basic circumference, seven and three-quarter inches in its horizontal semi-circumference, and six and a half inches in its vertical semi-circumference. It is becoming more prominent, and hence the comparatively slight increase in the circumference of its base. It is also assuming a somewhat lobulated character, as if divided into three portions.

July 1st. Dyspnœa and pain are now for the first time complained of to any extent. The digitalis nauseates. The appetite has failed.

July 3rd. Circumference at base now $15\frac{3}{4}$ inches; not much change in other measurements. Ascites has presented itself rather suddenly, and considerable œdema of right side of thorax exists.

July 7th. Tumor more prominent and steadily increasing. Aneurismal throb remarkably strong, it throws the head up as auscultation is being performed. Intense shooting pains prevent sleep; lies entirely on right side. Administer anodynes *p. r. n.*

July 13. Tumor steadily increases; skin over the most prominent point thin and bluish. Rests better and has less pain; respiration difficult. Tumor now measures nineteen and three-quarter inches in basic circumference, nine and three-quarter inches in its horizontal semi-circumference and seven and three-quarter inches in its vertical semi circumference.

July 18. Worse. All the symptoms more and more aggravated each day. Tumor steadily increasing.

July 20th. The Interne was called hurriedly to see the patient this morning and found him gasping for breath; pulseless and cold, and the tumor pulsating very feebly. 5 P. M.; patient partially rallied; but unable to speak, although he signifies a desire to sit up. Tumor pulsating more than in the forenoon, but still feebly, radial pulse being perceptible; skin warmer.

July 21st, 9 A. M.—About the same as last evening. 5 P. M. patient sinking rapidly; great dyspnœa; body and extremities cold.

July 22. Died at 12:30, A. M.

Autopsy—9:30 A. M. Removed whole of tumor with heart, great blood-vessels, mass of bronchial tubes; and lower portion of trachea, and with all of thoracic walls involved.

The following description of the parts is furnished by Prof. Logan:

"Heart normal; arch of aorta somewhat dilated, and yellowish patches of atheromatous deposit in its lining membrane. Just outside of the peri-cardiac reflection the two inner coats are wanting, and the outer coat forms a tubular tunnel commencing at the point where the two inner coats had given way in an orifice of about an inch in diameter—around the margin of which the

abrupt termination of the two inner coats can be felt as a distinct rim. The tumor, thus commencing, continues to enlarge, retaining somewhat the shape of a tube until it reaches the inner surface of the second, third, and fourth costal cartilages, where it attains a a diameter of about two and a half inches, and to which, as well as to the sternum and ends of the ribs, its whole circumference is firmly agglutinated. Here the outer coat seems lost, becoming smoothly continuous with the thoracic pleura. Upon opening the intra-thoracic portion of the tumor thus described—which was about three inches in length—it is found walled as usual with a lining consisting of laminated fibrine—in this instance, not more than the sixth of an inch in thickness, and the communication with the cavity of the extra-thoracic portion is effected through the intercostal spaces and by the destruction of the articular connections of the third rib and its cartilage with the sternum, the end of the rib being displaced to a slight degree forwards. Getting in this way outside of the thorax, the tumor has formed for itself a pretty firm sac of the fascial layers there found. The pectoralis major is lifted up and attenuated, and the tough walls of the immense tumor under it seem to have projected two septa inwards, dividing the aneurism into three lobes, as seen before death. These communicate by large orifices with each other, and their inner walls are lined with laminæ and hung with irregular shaped masses of fibrine in various stages of condensation, while softer and evidently recent clots lie loosely around. Upon exploring carefully the extra-thoracic sac, a portion of it is found to have bulged inwards between the fourth and fifth ribs towards the axillary space, pressing the intercostal soft parts and thoracic pleura before it, and thus producing another *intra-thoracic* tumor of about the size of a duck-egg, whose origin was from without,—a condition which I have never seen or read of before.

"No rupture of the aneurism had occurred, and the immediate cause of death was considered to have been the pressure on the bronchial tubes, combined with obstruction to the circulation producing the dropsical effusion and ultimately exhausting the vital powers through insufficient æration of the blood and impaired nutrition.

"The peculiar features of this aneurism, *i. e.*, its immense extra thoracic development, and the peculiar manner in which a portion of it re entered the thoracic cavity, have induced me to describe it thus fully. The specimen has been placed in the Museum of the New Orleans School of Medicine."

Case 2.—*Extensive Bone Granulation without Periosteum.* G. B., white male, aged 33—native of Pennsylvania, was admitted into Prof. Logan's wards, January 30th. Five days ago received a simple fracture of both bones of leg, about four inches above ankle. The fracture was put in extemporized splints and bandages, and he was placed on a steamer and brought to New

Orleans for permanent treatment. He complains of great pains, and has considerable fever. Upon removing the bandages and rough sticks, the whole leg is found swollen and inflamed, the foot twisted in, and the rough end of the upper fragments projected forwards, plainly perceptible even through the swelling. The parts were gently restored to a comfortable degree of coaptation; and the patient was treated mainly for the extensive periostitis which had been excited, the limb being placed in a fracture box with bran, and dressed with tinct. of arnica in cold lotions.

It will be unnecessary to report the particulars of this case. Suffice it to say that extensive suppuration, necessitating four or five deep incisions, occurred, after which the inflammatory symptoms subsided. All the incisions healed, but a collection of pus took place just over the seat of fracture, upon the evacuation of which, an ulcer formed, of about two inches in diameter. This assumed a healthy appearance, and was cicatrizing, when a tendency to sloughing phagedæna showed itself in the ward. Among other cases, this one suffered to such an extent as to result in the loss of all the soft parts around the fracture, involving an area of five inches in diameter longitudinally, and on each side extending round one half of the diameter of the limb. Both sides, as well as the anterior surface of the tibia, were completely denuded, and the bone traversed the deep chasm, projecting like a dead white stick along its bottom. The constitution of the patient suffered to an alarming degree, and the consideration of the question of amputation was postponed till the general condition would admit of it. Under the use of the hyposulphite of soda and tonics generally, and bromine and permanganate of potash as local remedies, the patient gradually improved; and as this improvement began to be decided, a few red points appeared, scattered at first at intervals of one and two inches. They steadily increased in size and number day by day, until they coalesced; and, instead of what was regarded as a dead bone, we found a healthy granulating mass, with the exception of a thin flake of exfoliation about one and a half inches long and a half inch wide. This was promptly lifted up from the body of the bone on the top of healthy granulations, and only required to be disentangled from the vigorous granulations which had in some places even sprouted through its meshes. In the meantime the soft parts were also granulating healthily, and the patient's general health improved each day. A double inclined plane was substituted for the fracture box; a rather large callus was thrown out; bony union took place; the ulcer rapidly diminished, and on the seventh of July the patient left the hospital, with about an inch shortening, and the parts almost entirely closed over.

Reports from Transaction of Medical Association of North Alabama, Reported by WM. DESPREZ, M, R. C., S. London, Oct. 19.

MISS E. S. aged 14, was bitten on the end of the ring finger of the right hand, by a ground rattlesnake, about 7 o'clock P. M., saw her about 3 o'clock morning of the 20th. Found the hand. fore-arm, arm and shoulder very much swollen, an ecchymosed line ran along the metacarpal bone of the ring finger to the wrist, on the back of the hand, the inside of the fore-arm, and along the external edge of the biceps muscle, to within an inch of the shoulder joint; the inside of the finger where it was bitten, had several blisters full of black blood, as far up as the second joint.

She had been given whisky very freely, and was pretty well under the influence of it, I continued the use of the whisky, to which I added ammonia and capsicum, had the hand and arm bandaged, and kept wet with strong vinegar.

By 10 o'clock she seemed to be getting worse, as the swelling and ecchymosis, were increasing, and the inside of the arm getting a darker color, as also was the belly of the biceps.

I concluded to go home and look over my medical works, and found that Prof. Gross, in his admirable work on Surgery, recommends Prof. Bibron's prescription, and says: "The Professor had such confidence in the efficacy of the antidote that he allowed a rattle-snake to bite him on the cheek and lip, and prevented any bad effect, by taking the medicine which consisted of—hyd. bichlorid, gr. ij; iod. potass. gr. iv; bromid. potass 3v. M—to be kept in a well stoppered bottle, give ten drops every twenty minutes if necessary"—from which I conclude he means a saturated solution. When I got back at 4 o'clock P. M., I found all the symptoms much aggravated,—commenced immediately with the solution, giving twenty drops at a dose; by 7 o'clock (three hours) after commencing the use of the medicine, the swelling was very perceptibly reduced,—I then gave the medicines at intervals of forty minutes, until 12 o'clock—after which I gave it every hour.

21. 6 A. M.—give the medicine every second hour.

22. Continued the medicine—giving forty drops every fourth hour.

25. Found the ecchymosis turning yellow.

29. All discoloration had disappeared—I took off all the loose cuticle about the end of the finger, found two small sloughs about the size of a garden pea, which healed up without any trouble.

Nov. 4. She is quite well, and did not even loose the nail. Prof. Gross in his work says he has reports of ten cases, in which the remedy succeeded. I think, I may take the liberty of adding this one to the number—the effects of the remedy were so marked, arresting the effect of poison so promptly, that I have no hesitation in saying, but for it I should have lost my patient. It is to be hoped that at last we have found a specific remedy for

the bite of poisonous serpents, as certain as quinine for intermittents. I believe Professor Gross is the only standard writer who says any thing of this remedy.

Cases Reported by Drs. KEMP and LEIGHTON.

FERRI and ammonia sulphat, the elegant styptic remedy which has recently been much prescribed in diseases of the mucous membranes, attended with excessive discharge, and for the preparation of which I would refer to works on pharmacy, was first brought to the notice of the Pharmaceutical Society of London, in December, 1853, by Mr. Lindsey Blyth, as a new remedy prescribed in St. Mary's Hospital. Dr. Tyler Smith found it more astringent than the common alum, and devoid of the stimulating effects of iron, and, while it controls excessive discharges, is often useful in correcting their cause.

Though called alum this salt contains no alumina, which is replaced by sesqui oxide of iron.

It has been used internally in leucorrhœa, and with benefit in diarrhœa and chronic dysentery, and other affections requiring a continuation of tonics and astringents; when given internally, the dose is from three to twelve grains twice or three times a day.

But on the present occasion I would beg leave especially to direct the attention of the members of this Association to this "ammonia iron alum" as a medicine for controling active as well as passive hæmorrhage. My experience with it in such affections having yielded the most satisfactory results, a few instances may serve to show that the prompt results obtained by this remedy may be a sufficient apology for obtruding this paper upon you.

I was called, September 23, 1861, at sunrise, to Miss J. M., a young lady aged 19, of sanguineo—nervous temperament; had generally been in fine health, but about a week previous had had an attack of bilious intermittent fever for which she had been treated by another physician, and from which she had not entirely recovered, when at 10 o'clock the night previous to my visit, she was taken with epistaxis; the hæmorrhage was profuse and without interruption, in spite of all means to suppress it until I saw her. Her physician being absent, I was sent for, and found her perfectly prostrated with cold extremities, her pulse 130 per minute, and very feeble, her countenance, usually very florid, was deathly pale, and the bleeding still continued from the right nostril. I speedily prepared a saturated solution of the ammonia iron alum, in which I soaked cotton, and with which I plugged the nostril, when the hæmorrhage instantly ceased, nor was there any return of it for two days—the patient rallying promptly under appropriate remedies—when a profuse hæmorrhage from the bowels speedily

destroyed life. I have repeatedly applied the remedy in epistaxis and never failed to almost instantaneously stop the discharge. In a case of hæmorrhage from the bowels which occurred last year, in typhoid fever, I checked the discharge promptly with it. But more recently, in a case of cancer of the uterus when an artery was destroyed by ulceration and the hæmorrhage amounted in a few minutes to at least two pints, being accidentally at hand, a tampon of cotton being thoroughly wet with a solution of am. iron alum, at once arrested the hæmorrhage and although the unfortunate patient who was absent from her family at the time, died by a repetition of the hæmorrhage, had at least a delay sufficient, to have the gratification of seeing her friends around her, and preparing for the awful change.

These and many other results have induced me to direct your attention to this remedy, believing it to be a styptic of great value; and knowing that it is but little used by the members of this Association, I respectfully recommend it to their favorable consideration when occasion may offer.

Epilepsy Treated with Bromide of Potassium : By S. S. Herrick, M. D., New Orleans.

Alphonsine C., a creole of Louisiana, aged 21, came under my treatment at Charity Hospital, June 22, 1868, for epilepsy. She has been married eight years, and has one child three years old. At the date of admission the epileptic seizures were of only four months' standing, and occurred only at the regular menstrual periods. There were generally three or four fits on the first day at each period, always preceded by blindness for about an hour. Being unconscious during the fit, she was not able to state the violence or duration of the attacks, but she did not bite her tongue.

Her general health was good. Menstruation was regular, but lasted about one week. Digital examination showed the cervix uteri somewhat elongated and tender, but no displacement of the uterus. The memory was already somewhat impaired.

She was immediately put upon the following treatment: ℞ potass. bromid. ℥ss; aq. pur. O.ss. M. S. ℥ss every three hours, or five times daily. It was also determined to try the effect of Chloroform by the mouth, to abort the paroxysms on the approach of the premonitory blindness. Accordingly, on June 27th, her catamenia having then returned nine days in advance of the expected time, the following was ordered: ℞. chloroformi, ℥ss; syrup. tolu, ℥ss. M. S. ℥ss. on accession of blindness, and repeat P. R. N.

On June 29th, without the precursory blindness, she had a single

seizure, attended with loss of voluntary control and consciousness, but without convulsions. Bromide of potassium continued.

July 1st and 2d she had similar attacks, but these were single on each day.

On July 3d, she experienced an erysipelatous eruption over the whole upper portion of her face. The liq. plumb. subacet. dilut. was applied, and the bromide continued. In three days the erysipelas subsided.

On July 7th the bromide of potassium was increased from ʒiv in aquæ ℥ ss. to ʒvj; on the 9th to ʒvij, and on the 13th to ℥j. The dose after the 7th was ℥ss four times a day.

July 19th her catamenia returned, lasting this time less than 24 hours. At this period there was no appearance of an epileptic seizure. The treatment, however, was continued.

August 4th, there was a slight seizure, without loss of consciousness or convulsions, followed by drowsiness. Treatment continued.

August 22nd she was discharged, at her own request, there having been no further return of the complaint. Not feeling certain that her recovery could be pronounced complete, I advised her to persevere in the use of the bromide for several months longer in diminished doses.

The success which attended this treatment may be attributed to the recovery of the complaint. About two years previously a similar case occurred to me at the Hospital, and was treated in a similar manner. This case, however, was of several years' duration, and the seizures seemed rather aggravated than mitigated by treatment, though it was thought that their return was a little delayed.

A case in private practice occurred to me about eighteen months ago, of a young man of eighteen years. The seizures commonly occurred at night, with loss of volition and consciousness and scarcely any spasmodic action. They had returned at irregular intervals for two or three years, but without affecting the memory. Bromide of potassium was prescribed, and when taken regularly had the obvious effect of lengthening the interval between attacks. It being impossible to enforce the regular and protracted use of the remedy, the result was unsatisfactory, except so far as to convince me of its value in cases not aggravated nor grown inveterate.

It will, of course, be understood that epilepsy dependent on mechanical irritation would not be amenable to any agent in the pharmacopœia; but, the cause of irritation having been removed, it is reasonable to expect good results from the sedative properties now generally ascribed to this remedy.

Selections from Clinic of PROF. W. S. MITCHELL, M. D.

Gangrene of Foot: Syme's Amputation "(modified)" at Ankle-joint. Reported by Ward Student, J. E. MORRIS.

T. McG., aged 30, born in Ireland; admitted into Charity Hospital July 18, 1868. Ward 4½:

At the first examination, the right foot presented a swollen and congested condition, very painful, with an almost entire absence of motion below the ankle-joint; great toe missing and second and third gangrenous. Inquiries into the previous history elicited the following: That the patient had been a private in 10th Louisiana Infantry, C. S. A., and at the battle of Chancellorsville, May 3d, 1863, had received a gunshot wound of right thigh, the ball entering its middle third anteriorly. This was extracted from the popliteal space 29 days afterward, whilst under the treatment of Dr. W. C. Nichols, at the Louisiana Hospital at Richmond. During treatment, gangrene of the lower portion of the thigh supervened, together with repeated abscesses in the popliteal region. For two years and a half the leg was devoid of all feeling and action. Twelve months after the injury, Drs. Nichols and Heard, C. S. A., extracted, through a longitudinal incision, several spiculæ of bone, the largest being three inches in length and a half inch wide.

The Professor remarked, in calling attention to the case, that in all probability the gangrene of the toes resulted from want of proper nutrition, due to injury of the popliteal nerve either from the ball or from the gangrene. The patient being also phthisical and requiring active exercise, it was determined to amputate the foot near the ankle-joint, it being evident that, even if the gangrene did not advance, the cure would be protracted and very materially interfere with the treatment of his phthisical condition.

July 26th. Whilst under the influence of chloroform, amputation was performed near the ankle-joint, by making a short curved anterior flap from the centre of the two malleoli, and a posterior flap somewhat longer than the one marked out by Prof. Syme, with the difference also that, instead of presenting a straight edge, it was concave, in order to co-adapt it perfectly with the convex anteror flap. The saw was then applied about three-fourths of an inch above the joint, no effort having been made as in Syme's operation to disarticulate.

Nothing of interest occurred during the after treatment, and on the 13th September, the stump presents an excellent form, with cicatrix in such a position as in no way to interfere with the usefulness of the limb. There, still however, exists a small ulcer at the inner portion of the cicatrix, which is healing slowly under the use of application of twenty grains of argenti nitr. to aq. 1℥ It might be well to add that the following application as a dressing was used from the first:

℞ Acid Carbolici.....℥i.
Ol. Olivæ.....℥vii.

Notes of Clinical Practice in the Philadelphia Hospitals : Reported by Dr. Wm. Mason Turner.

Pennsylvania Hospital, Surgical Clinic.: Service of Dr. T. G. Morton.

Case 1.—This man received a compound fracture of the leg at its upper fifth, produced by a bank of coal falling upon him. Since he entered the hospital, there has been no time, that anything could be done for him except in the way of toning up his system and supporting his constitution, and keeping the wound in good condition. The most comfortable position has been obtained by placing the limb in an ordinary fracture-box, filled with bran. The method of cleansing the wound is by means of a stream of water, through a hose, and a small *branch* pipe, with a stop-cock; the advantage in this is, that no sponge is brought in contact with the tender surfaces, nor is the discharge brought back and made to flow over the wound again. At present, it is impossible to say, what will be the issue of this case; but every attempt will be made to save the limb.

Case 2.—This boy, ten years of age, was injured at the same time and in the same manner, as the preceding case. His injury is a compound fracture of the leg at its *lower 5th.* The bones are badly comminuted, and it will be necessary to support him by good diet. The limb must be kept at rest. At this stage extension is not necessary, for, as yet, there is no change in the ends of the bones.

Case 3.—This boy fell from a tree some two or three weeks since, and suffered a compound fracture of the bones of the forearm. The protuberance of both bones, was of such extent, as to necessitate resection at the seat of fracture, in order to effect reduction. He has done remarkably well, and the wound has a very healthy appearance, due no doubt, in a great measure, to the treatment of irrigation.

Case 4.—The symptoms in this case are such as to confirm the diagnosis of incipient coxalgia; and as the great cause, (or one of the greatest,) is pressure upon the acetabulum, by the head of femur, it is thought best, to give relief by drawing the head away from this point of pressure. Extension by means of weights, attached to bands of adhesive strips, will carry out this indication.

Case 5.—This boy has been suffering for a long time with a fistulous opening in the abdomen, consequent upon a stearcoraceous abscess, connected with the small intestines. Efforts have been made from time to time to close this opening, by freshening the edges etc., etc., and by plastic operations with the skin from adjacent parts. But as these failed, it was thought advisable to make a further attempt by taking a flap, and turning it *skin-side* inward. So far, this has been more nearly a success than any thing done previously. There is, however, still a small opening, which thus far has resisted all efforts at closure. We will note its condition at a future time.

Surgical Clinic—Service of DR. WM. HUNT.

CASE 1.—The patient was operated upon last day, by what is denominated perineal section. He had been injured by falling astride a cross-piece. Subsequent inflammation and ulceration, had left a fistulous opening, connected with the bladder, through which the urnie had passed for the last seven months. The pitiable condition of the man, called for the effort at relief, although the changed condition of the parts, and the absence of any guide to the urethra proper, indicated how difficult it would be.

The case, as it is shown to-day, is certainly a reward for the one-hour-and-a-quarter of hard work in the operation. It will be noticed that the catheter which has been kept in position is borne well. The man's general condition is incomparatively more comfortable. His pulse is good, and the pain has been almost entirely relieved. Danger is to be feared from the cicatrix which will form—but we will endeavor to counteract it.

CASE 2—This man was knocked down and run over by the street-cars, on last Wednesday night. The extent of the injury warranted immediate amputation. But the man was unwilling; and it being a rule of the house, that no operation be performed without the consent of the patient, it was postponed. The amount of hæmorrhage, required the application of two acupressure needles—the first being after the method of Simpson; the second by that of Aberdeen. Amputation was performed the following morning—the wound closed by scrre fines, and dressed with greased paper. We will now remove the needles and apply dressings. (This was a fracture—compound—of the leg.)

CASE 3.—This is a woman who was run over, some ten weeks ago by a carriage, and suffered a compound fracture of the leg. Efforts have been made from time to time, to save the limb, by resections; but the fragments will overlap, and there is no prospect of success, although every action has been taken to preserve the periosteum. Examination of the bones at this time, proves the existence of too much diseased bone to attempt any further except amputation, which will now be performed according to Teale's method.

University of Pennsylvania, Medical Clinic: Service of DR. T. G. SMITH.

CASE 1.—A young boy, who from a slight examination was found to be suffering with acute rheumatism—along the gastrocnemius, and in the ankle. Treatment—acetate potass. in decided doses internally—and friction over seat of pain.

CASE 2.—A sallow, debilitated looking woman—bright eyes, and sharp face with anxious expression. Dullness under the right clavicle—also in the same locality, feeble respiration, and a decided *click* at the end of each inspiration. Suffers from a constant cough, and has colliquative sweats. Also irritation of

pulse and a diarrhœa. The menstrual flow has some time since ceased, though the woman is quite young. Lower down in the same lung we find moist rales. This case is diagonised as the *beginning of the second stage of phthisis pulmonalis.* Cessation of the menses under such circumstances is a very common occurrence, and is regarded as a fine diagnostic symptom.

The treatment is to arrest the irritating and debilitating cough—to improve the constitution and to arrest the diarrhœa. In regard to the latter, the following, in this woman's case, is about the best remedy that we may employ:

℞ Bismuth subnit ..... ℥i.
Ossii. pulv. ..... gr. iij.
Sacch. lactis ..... gr. xii.
M. Ft. pulv. dv. in cht. No. xii.—S. one t. d. Before meals.

Sacch. lac. is much better than ordinary sacch. alb, not only as a treatment, but for other reasons also.

Several cough mixtures present themselves. Cough mixtures should not be used unless imperatively demanded—for they have a tendency to impair tone of stomach. In this case they are undoubtedly indicated. One of my best, and the simplest, is equal parts of syrup lactucarine, and syrup wild cherry, given in ℥ij, doses several times a day. Or—the following:

℞ Potass. cyanide ..... gr. iij.
Morph. sulphas ..... gr. iss.
Acetum distil. ..... f. ℥ii.
Syr. tolu ..... fl. ℥iii.
M. s. ℥i. td. This shall be given this woman.

At present no tonic, of iron, or bark, etc., shall be exhibited. The diet must be light, but nourishing—for a time, the food chiefly farinaceous. Occasionally good sirloin beef *well cooked.* She shall leave the city for a while, for better air—and after a while come back. At present we are non-committal as to prognosis—though generally speaking, it is unfavorable.

Case 3.—A young woman of 28—suffers from amenorrhœa. Has not menstruated for several months. Her bowels have been obstinately constipated too, for about four months—stools being very scanty, and fæces impacted. The girl, as can be seen, is anæmic. The indication is an aperient, with a tonic, aloe and myrrh in combination by all means—and the best combination is the officinal tinct. aloe et. myrrh, ℥i. at night. The gentlemen are warned (after girl has left) not to be caught in a snare—to look out for *pregnancy*, and to avoid use of powerful emenagogues, etc., until the case has been well diagnosed. The above, while, if the trouble be simple amenorrhœa, will do all we desire—will not in case of pregnancy do the harm which we would avoid.

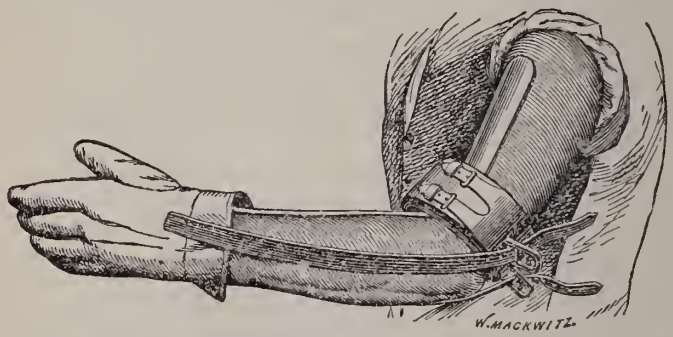
QUARTERLY RECORD OF SURGERY.

COLLATED BY SAMUEL LOGAN, M. D., PROF. OF SURGERY, NEW ORLEANS SCHOOL OF MEDICINE.

Fractures of the Olecranon Process, and Head of the Humerus: By E. A. CLARK, M. D., Resident Physician, St. Louis City Hospital.

I HAVE found all the ordinary appliances in use for treating fractures of the olecranon so deficient in meeting the indications required, that I have been induced to devise the apparatus represented in the following woodcut, which is sufficiently simple to require but little description.

Fractures of the olecranon, as they usually occur towards the middle or base of the process, are generally attended with such a degree of displacement—especially in muscular subjects—that the ordinary method of applying narrow strips of cotton or cloth around the arm—both above and below the elbow—and approximating them by means of lateral strips, as recommended by Sir Astley Cooper and Amesbury with the view of drawing down the upper fragment in apposition with the head of the ulna, and thus securing the condition most favorable for bony union, will necessarily require these bands to be so tight around the arm, at both points, as to arrest the circulation. This danger will be the more imminent in cases where there is much contusion and swelling of the soft parts, which, as might be expected, from the very nature of the violence or force required to produce this fracture, is almost always the case. The method of treatment recommended by these gentlemen is also objectionable in that they direct that the arm be kept in the straight posltion.



The apparatus above represented consists of a band of ordinary sole leather about two inches in width, and of sufficient length to surround the arm, lined with cloth or chamois, and well padded with cotton or hair. In order to give the band additional firmness, and also to secure it around the arm, a strip of common

harness-leather is stitched upon the outside, to one end of which two small buckles are attached, while the other end, which extends about three inches beyond the band, is split or cut into two straps to correspond with, and fasten into the buckles. The band is fastened around the arm above the fractured process, and may be drawn to any degree of tightness necessary to bring the broken fragment down when traction is made upon it.

The same band may be used on either arm, and may be adapted to an arm of any size. On the outer side of this band, and one inch apart—one on each side of the olecranon—are two buckles or staples, which should be two inches in length, and three-fourths of an inch in width, and clinched on the inside of the leather band, from which they project at a right angle. These buckles or staples also have three bars across them, with two tongues made to turn either way.

In applying this apparatus the arm should be flexed at an angle of forty-five degrees, and a common pasteboard splint bent at that angle placed upon its anterior surface. The leather band is then buckled over this splint, just above the fragment of the olecranon, and the entire fore-arm is covered with a bandage to hold the anterior splint firm to the arm and thus prevent any movement of the elbow-joint, which, if allowed, would be constantly modifying the force exerted upon the fracture. A common buckskin glove is then placed upon the hand, to the anterior and posterior surfaces of which are attached two leather straps, which are to be buckled into the staples on the band. By buckling these straps over the bars at a greater or less distance from the band, and tightening them as required, we obtain the necessary amount of leverage to turn the lower edge of the band in upon the arm, and push the fractured process down before it.

By making traction upon these straps any degree of force may be exerted upon the band, necessary to draw the broken fragment down and hold it in perfect apposition with the head of the ulna.

It may be objected to this method of treatment, that the arm is held in a flexed position, thus increasing the space between the two fragments. But the advantage of this position is apparent for two reasons:

First, by flexing the arm to this extent the point of the olecranon is made more prominent, and, consequently, the band more surely adjusted, so as not to slip over it; while, again, the force exerted upon the band by the straps, directed at an angle of forty-five degrees from the axis of the humerus, renders the pressure still more secure above the point of the olecranon and prevents the possibility of its slipping back beneath the band.

The second reason for fixing the arm in this position is to relax the brachialis anticus muscle, the action of which, in cases where the fracture occurs low down, near the base of the olecranon, and especially in a muscular subject, when the arm is held in a perfectly straight position, evidently draws the head of the ulna forward, so that a portion of its fractured surface is in direct apposi-

tion with the articular surface of the lower end of the humerus; while if the detached fragment of the olecranon be forced down to its proper position it would not be in complete apposition with the upper end of the ulna, but would leave a triangular space in the articulation to be filled up by callus and thus produce more or less complete anchylosis of the joint.

This apparatus when applied as described, is in no way painful to the patient, the band being padded in the inside and the pressure exerted by it on the anterior surface of the arm bearing upon the pasteboard splint; the only other pressure exercised is directly upon the olecranon, and that upon such a broad surface that sloughing need not occur in any case.

I have treated but one case with this apparatus, and with the following result:

A laboring man, aged thirty-two, years, was admittrd to hospital five days after receiving a fracture of the olecranon near its base. At the time of his admission he had an abscess as large as a hen's egg immediately over the point of the olecranon, resulting from a contusion received when the bone was fractured. The abscess was opened before the dressing was applied, and, notwithstanding all the pressure required to hold the bones in apposition was made upon the point over the abscess, it healed quite readily, and in seven weeks the apparatus was removed, leaving firm, bony union in the fracture, without the least deformity or displacement; and now—three weeks since—the patient has recovered almost perfect use of his arm.

No passive motion of the joint was allowed at any period of the treatment.

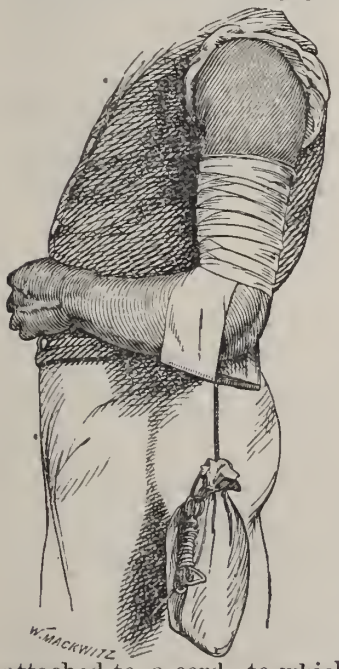
Fractures of the Head of the Humerus: By E. A. Clark, M. D., Resident Physician, St. Louis City Hospital.

Every surgeon who has had much experience in treating fractures about the head of the humerus can testify to the great difficulty of maintaining the fragments in apposition, even with the most ingenious appliances, amongst which those of Desault, Sir A. Cooper, Fergusson, Erichsen, Welch, Richerand and Dupuytren are most generally used. The very fact that the means of treating these fractures have been changed and modified by so many distinguished surgeons, is sufficient evidence of the difficulties to be encountered in adapting any apparatus to correct the deformity most usually found to exist in these injuries.

In speaking of fractures of the head of the humerus, I refer only to that portion of the bone above the attachment of the latissimus dorsi and pectoralis major muscles. This would embrace—external to the capsular ligament—the tubercles and surgical neck, in the latter of which fractures most frequently occur from direct violence; yet fractures not unfrequently occur through the tubercles from the same cause, and in both cases,

there is always more or less displacement, where the fracture is complete and not impacted. Fractures of the anatomical neck are not so often attended with displacement, or shortening, but even here it is not uncommon from the great violence required to produce the fracture, to find the capsular ligament ruptured and one or both fragments displaced. In all cases of fracture occurring outside of the capsule, where there is no impaction, there must be more or less displacement of the upper fragment from the contraction of the muscles attached about the tubercles. It is on this account that none of the appliances in ordinary use, such as pads in the axilla, and cap splints over the point of the shoulder, can be made effectual in maintaining the bones in apposition; because it is impossible to place any kind of compress in the axilla, that can be brought to bear upon the upper fragment, without producing an amount of pressure on the axillary vessels intolerable to the patient, while it would be a rare and peculiar fracture that could be kept in apposition, where the upper fragment and muscles attached to it, were allowed to go unrestrained, even though the shaft of the humerus might be maintained in its proper axis by the use of a pad in the axilla.

Where there is shortening of the limb, as is almost invariably the case in fractures of the surgical neck, none of these appliances could have the least influence in correcting such deformity, further than that the pressure from the bandages might control the contraction of the muscles.



In fracture of the anatomical neck with laceration of the capsular ligament attended with displacement, the pad in the axilla would be likely to increase the deformity, and it certainly could in no wise correct it.

The accompanying woodcut represents a method I have employed which is not open to the above objections. The appliance consists merely of two strips of adhesive plaster about three inches in width, applied to the internal and external surface of the arm as high as the upper part of the middle third of the humerus. These strips are bound to the arm by a roller bandage, and at their lower end, beneath the point of the elbow, are attached to a cord, to which a sand-bag is attached, weighing, ordinarily, from three to four pounds.

This sand-bag, as represented in the diagram, is attached close to the point of the elbow when the patient wishes to walk about, by knotting the cord by which it is suspended, and when he lies in bed, the knot in the cord, as seen in the cut, is loosed, and the cord carried beneath the bed clothing over a small pulley placed at the foot of the bed, and in this way an equal extension is constantly kept up, whether the patient be confined to his bed or is able and prefers to walk about.

When using this apparatus for treating these fractures, I apply no other dressing, and entirely ignore the compress in the axilla, as useless, if not positively injurious. The constant traction upon the muscles soon exhausts their tonicity, so that they allow the bones to fall into their natural position, while the extension being constantly in the line of the axis of the humerus, it is quite impossible that any displacement should continue, either laterally or of an angular character, or that any shortening should result.

I have, as yet, treated but one case of fracture of the surgical neck of the humerus by this method.

The patient was a stout muscular man, aged thirty-three years, who had fallen some twelve feet, striking the point of the shoulder upon the ground, causing considerable contusion of the soft parts besides the fracture, which was considerably displaced, by the lower fragment projecting outward; there was also shortening to the extent of three-fourths of an inch. The patient complained of constant and severe pain at the point of fracture until the third day, when the above apparatus was applied, with the effect of relieving the pain almost instantly. At the end of seven weeks the dressing was removed and the union in the fracture found to be firm, without any displacement or shortening, and in ten days after the patient was discharged from the hospital with perfect use of his arm.—*Humboldt Medical Archives.*

On Tapping with the Aid of Siphon Power: By W. ROBERTS, M. D., F. R. C. P., Physician to the Manchester Infirmary.

THE aid which may be obtained in the operation of tapping, by the use of the soliciting force of a column of water in an elastic tube, was first suggested to me in a case of ascites, which was under the joint care of Dr. Eason Wilkinson, Mr. Hall, of Salford, and myself, in November, 1866. The disease was cirrhosis of the liver, and the necessity for tapping soon became apparent. It was agreed to try the method indicated; and Mr. Hall, caused to be made a fine trocar and canula, furnished with a short piece of metal pipe projecting beyond the hilt of the canula. The operation was performed in the following manner:—The canula, armed with the trocar, was introduced in the usual way through the linea alba. The trocar was then withdrawn, and a piece of elastic tubing, four feet, previously filled with water, and tied in a knot

at one end, was slipped over the projecting piece. The knotted end was then placed in a vessel on the floor, and about thirty inches below the level of the puncture, and untied. The fluid immediately commenced to run, and continued to run for about an hour and a-half, in which period several pints of ascitic fluid drained away. After this, Mr. Hall improved the instrument, by adapting a screw to the projecting piece, and by fixing a similar piece also furnished with a screw, to one end of the elastic tube. The elastic tube could thus be immediately screwed on to the end of the canula, on the withdrawal of the trocar, and the spilling of the fluid during the fixing of the elastic tube, was almost entirely avoided.

This patient was subsequently tapped several times by the same method, and, so far as the mechanical arrangement was concerned, with cleanliness, convenience, and efficiency.

The principle of the method is easily understood. The column of liquid in the elastic tube (drawn into it before-hand by suction), acting in obedience to the law of gravity, operates as a soliciting force, and as it seeks the lower level of the vessel on the floor, it draws after it the contents of the cavity which is being tapped. When the patient lies horizontally in bed, the fluid first ascends in the canula, and then descends along the elastic tube, which thus acts after the manner of a siphon.

The next case in which the same contrivance was used, was that of a young girl of twenty-three, with a large monocystic ovarian tumor. She was under the care of Mr. Dowse, of Long-sight, with whom I saw the case. We requested the advice of Mr. Southam; and it was agreed to tap the cyst with the aid of the siphon, as in the preceding case. Mr. Southam used a small French canula, and, after its introduction into the cyst, an elastic tube, filled with water, was slipped over its head. Twenty-five pints of a slightly viscid, opaline, albuminous fluid were withdrawn in an hour and three-quarters. The operation was performed on April 15th, 1867. Perfect recovery, without a bad symptom, ensued; and up to the present time (a period of eight months) the cyst has shown no signs of refilling.

Mr. Southam tapped by the same apparatus a second case of ovarian tumor in the Manchester Infirmary six months ago. The cyst, which was single, has not as yet shown any appearance of refilling.

On December 10, 1867, I tapped at the Royal Infirmary by a fine trocar and canula, with the aid of the siphon, a large, ovarian cyst in a patient under the care of Dr. Wilkinson. In the course of an hour eighteen and one-half pints were withdrawn of a dark brown albuminous fluid—specific gravity 1021—containing cholesterine plates and granular corpuscles. On the subsidence of the tumor, several other cysts could be felt, forming an oblong mass as large as two fœtal heads, stretching across the hypogastrium.

These cases could not fail of being suggestive; and, on consideration, it seemed likely that this method of tapping was capable

of numerous applications, and possessed certain important advantages over the common mode of operating by simple trocar and canula. The advantages which it appeared to promise were the following:

1. *The Use of much smaller Instruments.*—Liquids, and especially the slightly viscid liquids of dropsical effusions, will flow through fine tubes without the aid either of an expelling or a soliciting force; but, having this aid, tubes of a very small bore transmit peritoneal, pleuritic, and pericardial effusions, and the contents of serous cysts and abscesses, with facility.

2. *The Contents of Dropsical Cavities, Cysts, and Abscesses are removed with Greater Completeness.*—This I believe to be a point of importance. By the simple canula it is rarely possible to empty completely a cavity containing fluid. As soon as a certain proportion of the fluid has escaped, the elastic tension of the surrounding parts, which in the first instance acted as an expelling force, ceases to operate, and the flow comes to an end. But the weight of the column of liquid in the elastic tube, acting as a soliciting force, keeps up the flow until the whole is drained off. And the force thus employed is gentle, steady, continuous, like the pressure of the atmosphere, of which, indeed, it is an example. In this respect it has a manifest advantage over the jerking, interrupted action of the syringe applied for the same purpose.

The effect of completely evacuating cysts and chronic abscesses by siphon-power, is a subject for future experience; but it is impossible to reflect upon the results obtained in the above cited cases of single ovarian cysts, without thinking that a further trial of the tapping method, thus improved, should be made before resorting to the high risks of extirpation. It is at least, conceivable that complete evacuation of the cysts, by bringing their parietes into actual contact, may alter capitally the chances of refilling.

3. *The Prevention of the Admission of Air in Tapping the Chest and Chronic Abscesses.*—As the elastic tube is throughout filled with fluid, and its lower end immersed in the contents of the receiving vessel; and as, further, the canula is tightly impacted in the opening through the cutis, the admission of air becoming an impossibility.

4. *The Gradual Withdrawal of the Fluid.*—This may not prove an advantage in every case, but it will prove so, I think, in a considerable number. In thoracentesis it will allow time for the compressed lung to expand and fill up the space left by the escaping fluid. In large chronic abscesses it will also allow time, for the slow contraction of the thickened parts around, so as to fill the vacant space. In all cases it will obviate the shock, attendant on the sudden removal of the pressure on surrounding organs, of a large mass of fluid.

5. *The Operation is Rendered Less Formidable.*—The instruments used are smaller; the wound they inflict on the tissues is trifling;

not a drop of blood is shed; not a drop of the evacuating fluid need be spilt on the clothes or person of the patient. It will presently be shown that, with small instruments, no preliminary incision of the skin is required. On the other hand, a longer time is necessary to complete the operation, and a longer attendance on the part of the Medical Practitioner—disadvantages which cannot weigh against the safety and effectiveness of the proceeding. Believing that all or some of these advantages may be obtained, by the adoption of the principle of the siphon applied by means of an elastic tube, I proceeded to inquire into certain points of detail as to the rate of flow of different fluids through tubes of fine bore, and into the best form of construction for the apparatus to be employed.—*Monthly Medical Reprint.*

Practical Remarks on the Treatment of Some of the Diseases of the Genito-Urinary Organs: Read before the Harveian Society of London, April 2, 1868, by W. F. TEEVAN, Esq., B. A., F. R. C. S., etc.

MR. TEEVAN commenced by stating that he intended to divide the subject of the evening's discourse into four parts: 1. Spermatorrhœa; 2. Stricture of the urethra; 3. Irritable bladder; 4. Stone in the bladder. He however would on this occasion be only able to notice the first two subjects, as the evening had already been considerably shortened by some communications.

The author related the various opinions regarding spermatorrhœa, showing that whilst it was recognised as a complaint *per se* in France, its existence in this country was almost ignored. According to M. Mercier, spermatorrhœa was very common, and resulted generally from, and was a symptom of, indigestion. Mr. Teevan went fully into the causation and pathology of the complaint, as related to him personally by M. Mercier, and narrated two well-marked cases which had come under his own notice, and in which the existence of true spermatorrhœa had been clearly proved by microscopical examination of the urine, which showed that spermatozoa were passed, unconsciously to the patient, in the day and night urine. There were four causes for spermatorrhœa:—1. Indigestion; 2. Excess in venery; 3. Local irritation; 4. Masturbation. The complaint was common in cases of disease of the brain and spinal cord.

The treatment of the complaint varied according to its cause, and also whether it was the primary functional disorder, or merely secondary. When it resulted from indigestion, a cure would be obtained by removing the dyspepsia, and by local treatment—electricity and mild injections of nitrate of silver (gr. v. to gr. x. to the oz.). If it was caused by excess in coitu, it might be removed by large doses of tinct. ferri.mur. ʒj. to ʒiss.), given three times a day, and by cold bathing: this latter remedy

was, however, very powerful, either for good or for evil, and ought not to be used unless there was well established reaction. Horse exercise, carriage exercise, and walking, were all bad, and ought to be avoided, as the blood was determined to the pelvic organs. Gmynastics and rowing, or the use of dumb-bells, were the best kinds of exercise.

Mr. Teevan then proceeded to his second division, and explained the causation and pathology of stricture of the urethra, and stated that no attention whatever had been paid to that most important fact—the detection of stricture in its earliest stage, and thus entirely obviating any operative interference. He showed how strictures could be recognised by the use of the "bougie à boule," years before the generality of surgeons would find out the existence of the complaint.

There were only two philosophical and surgical ways of treating stricture of the urethra—either by gradual dilatation or by subcutaneous division. Most strictures are best treated by the use of the French "bougio olivaire." The author said he was the first to introduce these instruments into English hospital practice, and no one who had ever used them would ever return to the English ones. The instrument pictured in the *Lancet* of January, 18th, and called "bougie à boule" by Sir Henry Thompson, was not such, but was the "bongie olivaire." The former was for the detection of stricture, the latter for its treatment.—*Medical Press and Circular.*

Condition of the Muscles Surrounding the Joint in Injuries About the Hip.

Much stress has been laid, and justly, upon the lump formed by the head of the femur in its abnormal position when luxated. The complement of this sign—the void space beneath the muscles—has been too much neglected. For example, in dislocation on the dorsum ilii the sartorious and rectus femoris are relaxed, and the fingers can be pushed into the hollow beneath them. So also in dislocation forward on the pubis, the glutei are relaxed and flabby, and a depression is felt at the lower part of the buttock, which is narrowed. This neglect is the more singular, inasmuch as analogous deformities are so very important as diagnostic marks of luxation in the shoulder, elbow, and ankle. The sign in question would be most readily perceived in thin and long-boned persons, and loses much of its value after swelling has occurred. Taken in connection with the limitation of certain motions of the joint, the patient being under the influence of an anæsthetic, it might even serve to prove the existence of luxation, when all the other symptoms were obscure.—*New York Medical Journal.*

Two Cases of Incontinence of Urine from Earliest Childhood, cured by Mechanical Dilation. Guy's Hospital—under the care of Dr. BRAXTON HICKS.

A CAUSE of incontinence of urine is indicated in the following cases which is not generally recognized. The treatment which Doctor Hicks applied was very successful, and we have no doubt the record of it will be of great service to practitioners who have patients suffering from this very troublesome condition.

Case 1.—M. A——, about twenty-two years old, had suffered ever since she can remember from incontinence of urine, and almost incessant desire to micturate during the day. Had been under a great amount of treatment. She was admitted into Guy's Hospital under one of the surgeons, who examined for stone, but found none, nor any disease of the bladder, but a contracted one. Dr. Hicks offered to take charge of her. He began first by injecting solution of morphia, which lessened the irritability to a great extent, so much that she was for two or three nights free from her distress. However, no further progress was made, but rather retrocession. Dr. Hicks then ordered the bladder to be distended as much as possible by plain warm water. This was done by his clerk, Dr. Chas. Smith, very carefully, daily. Almost directly she derived benefit, and in the course of a week she was quite well. The treatment was kept up for a week more and she went out. After three months the nocturnal incontinence returned, and she was readmitted; but the bladder became rather more irritable. Morphia was again used, but not acting so well as before, an injection of nitrate of silver, twenty grains to the ounce of water, was employed. This caused some pain after, but in a week she improved, with occasional trouble at night. She could hold half a pint of urine at a time in the day, but not so much at night. However, by an occasional injection of morphia she gradually regained the power of retention, and went out again free from her complaint. It was curious that for two or three days of the latter part of her treatment she was troubled with complete retention of urine; this, possibly was of a nervous character.

Dr. Hicks remarked that the constant evacuation of urine permitted by some mothers to their children allowed the bladder to become so constantly empty, that after a time the muscular power of the sphincter was not sufficient to counteract the contractility of the organ. In recent cases, no doubt this would be voluntarily overcome by adults; but in old-standing cases, although we do much by lessening the sensibility of the bladder, yet we might proceed at once to overcome its resistance by mechanical force, so that further treatment would not be required. This was strongly shown in the following case, which recently was under his care in Guy's Hospital.

Case 2.—The history was precisely similar to that of the last. The bladder was at once injected with water; it shortly held half

a pint. The incontinence was rapidly cured; and the patient went out to service.

Both these girls had been unfit for service from their complaint. Dr. Hicks suggested the applicability of this treatment to both sexes, in cases with similar history; at any rate it would be harmless unless violence were used. He thought it was possible that in some of the cases there were congenitally small bladders, and these possibly might be more difficult to manage.

There is much more difficulty in treating the contracted state of the bladder in chronic cystitis. A great deal can, however, be effected by injections of various kinds, as was shown in the following instance:

C. C——, aged twenty-six, had cystitis after delivery, which caused her great pain, and intense desire to void urine every half hour. Various remedies were tried; styptics and sedatives to the interior of the bladder. Nitrate of silver injection (thirty grains to the ounce) was most beneficial. The distress it caused was considerable; but she preferred it, as giving most subsequent relief. Morphia solution was always left in afterwards; and also at other times, to lessen the sensitiveness occasionally; mechanical distension was employed, but it was found nearly impossible to inject beyond three ounces at a time. After three months she could retain urine nearly three hours, when Dr. Hicks thought it might be possible to distend the bladder to a greater extent under chloroform. This was tried; but three ounces was the greatest quantity admitted. There was a great deal of irritation after, and she was not so well as before. After a week she could hold her water only for an hour and a quarter. Afterwards she improved, and could manage to retain urine for an hour and a half, when she left the hospital.

Whether the resistance of the bladder was simply from the thickened walls, and from this and inflammatory adhesions also, did not appear clear in the case. The resistance was very firm. She had, however, gained something altogether by the treatment; but not so much as she would have done had no attempt been made to distend the bladder.

Two Extraordinary Forms of Rectal Fistula: By E. ANDREWS, M. D., Prof. of Principles and Practice of Surgery, Chicago Medical College.

I occasionally find practitioners of great general skill completely puzzled and confounded by the occurrence of unusual forms of intestinal fistula. The following examples are instructive in this connection:—

Case 1.—Annie B., æt. twelve years, was placed under my charge in the third stage of hip-disease. As she seemed likely to die of the irritation and suppuration, I exsected the carious head

of the femur. This operation greatly improved her condition, so that she shortly began to recover flesh and strength.

At one of my visits, the mother stated to me that the child passed air from the intestines through the wound. Though rather incredulous on the subject, I tested the matter by injecting the rectum full of tepid water, when I found that it flowed out in a small but continuous stream from the incision by the trochanter. By making pressure at various places near the anus, I discovered a point where the fistulous canal crossed the tuberosity of the ischium, and where the touch of the finger would stop the flow of water from the wound. Taking a scalpel, I cut down upon this point, opened the fistula, and found that the water flowed freely out. Passing a probe along its track, towards the anus, I cut down again upon it, at a point pretty near the verge. Inserting the probe again at this point, I had no difficulty in following the sinus into the rectum, and effected a cure by cutting the sphincter in the usual manner.

Case 2.—Mrs. F. had an old femoral hernia, which at one time had terminated in an artificial anus in the groin, but had subsequently healed. I was some years afterwards called in for a new trouble. The whole circumference, almost, of the left hip was chronically swollen, and very tender. There was severe pain along the sciactic nerve, and great exhaustion and emaciation, which, unless relieved, was plainly destined to end in her death. On examinatiou, the inflammation did not appear to be connected with the joint. The swelling fluctuated under the finger, and gave a distinct succussion upon coughing. Its entire circumference was resonant upon percussion, and pressure caused a gurgling noise, which proved the existence of air in the whole gluteal regiou, and also in the external part of the groin.

The case perplexed all who saw it, but was generally believed to be a hernia through the sciatic notch. On examination, I was dissatisfied with this explanation, because the tumor had no definite outline, like a true hernia, as well as because it was too tender, and quite irreducible. On inquiry, I found that the patient passed a considerable quantity of pus every day at stool, with some blood. Following up this hint, I injected the rectum full of air, and found that in this way I could easily fill up aud distend the tumor, showing the connection betweeu them.

With the concurrence of Dr. Ernz Schmidt, whose views coincided with mine, I determined to operate. The patient being placed uuder the iufluence of ether, I made an iucision about halt way between the trochanter and the border of the sacrum, down to the gluteus maximus muscle. Next carefully dividing the muscular tissue, as if coming down upon a hernial sac, I opened the cavity. There was no intestine present, but a large cavity, from which rushed a quantity of fetid gas, followed by some pus mingled with decayed fecal matter. Upon injecting the rectum full of tepid water, the fluid ran freely out of the wound. Bearing in mind the course of the fistula in the previous case, I carefully

sought along the ischium and all adjacent parts for some point where pressure would stop the flow of water, but in vain; after a full exploration, it became evident that the sinus had a deeper course. Next passing a probe into the cavity, the fistula was found to run through the sciatic notch, above the greater ligament, and its opening, large enough to admit the point of the finger, could be felt on the side of the rectum by exploring that viscus. As there are too many important organs occupying the notch to allow of the enormous cut which would be required to open down to the anus, as in ordinary fistulas, it became necessary to devise other measures.

So far as I know, there is no published authority for a surgeon's guidance in such a case, and therefore it was requisite to act on general principles. I first enlarged the external incision towards the notch, so as to give as straight and short a fistula as possible, thus preventing the vast sac-like cavity from being any more distended, and giving it an opportunity to collapse and heal down as far as the edge of the incision. The next step was to introduce the index finger into the rectum, and grasping the sphincters between it and the thumb, to cut them through at one stroke. The retaining power of the anus being thus temporarily destroyed, I hoped that the contents of the rectum would pass straight downward, and give an opportunity for the fistula above to close.

The result surpassed my expectations. For a few days the sac continued to discharge its accumulation of old fæces, after which it sent forth clean pus, with occasionally a little flatus from the fistula. The sac collapsed, granulated rapidly, and was obliterated; the pain of the sciatic nerve ceased; the patient began to grow strong and fat, and in every way to present a striking improvement. At present, the fistula is almost entirely closed, but has occasionally bubbled out a little air. It is contracting so rapidly that it seems likely to become completely obliterated without further interference. The patient is walking about, and even going out on visits, and is entirely freed from the danger which a few weeks ago threatened her life.—*Chicago Medical Examiner.*

A Case of Excision of the Wrist by Lister's Method: Reported by J. W. Hulke, F. R. S., Assistant-surgeon to the Middlesex and Royal London Ophthalmic Hospitals.

An impression that Lister's excellent method of excising the wrist has not met with the attention it deserves, and a desire to bring it under the notice of the profession, have led me to communicate a short account of a case in which I adopted it in May, 1866. As the method has been described at length by Mr. Lister in *The Lancet* of the 25th of March and the 1st of April, 1865, I would refer any one who desires full particulars respecting it to that

source. It differs from all other methods which I have seen practised—where the carpus was excised through lateral incisions, or through a cut transversely across the back of the wrist—by its allowing the relatively facile removal of the carpal bones, together with as much of the articular ends of the radius and ulna and of the metacarpal bones as may be diseased, through incisions which are so ingeniously planned as not to sever any of the flexor or extensor tendons of the fingers, and yet permit the bones to be brought so clearly into view that the extent of the disease can be exactly ascertained. In a word, Lister's method of excising the wrist has the great merit of being an exact operation, and one which attains the desired end with the least amount of injury to other parts.

A groom, aged twenty-three, was admitted into Clayton ward, Middlesex Hospital, March 16th, 1866, with disease of the left wrist of eight months' duration, for which he had long been under treatment as an out-patient. The wrist was much swollen, its natural outlines being quite masked; and it was very painful, often starting at night, and greatly breaking his rest. He could slightly flex and extend it, but the attempt to do so gave him great suffering. There was a puffy, obscurely fluctuating swelling, covered by slightly reddened skin at the back of the joint. He had for some time been losing flesh, and had a slight cough; but the signs of pulmonary phthisis were absent, and his emaciation was probably mainly due to want of enough food, for he had been long out of work.

The hand and forearm were put in a glue bandage, which immovably fixed the wrist, and this was painted with iodine through an opening left for the purpose at the back of the joint. He was ordered tonics, full diet, and to keep as much out of doors as the weather allowed.

In the course of a few days the pain abated, but an abscess broke at the back of the wrist, and the state of the joint gradually became more hopeless. In May another abscess formed over the second metacarpal bone; and at the end of this month, as his health had begun to suffer seriously, I excised all the carpal bones, with the articular surfaces of the radius and ulna and those of the proximal ends of the metacarpal bones, following exactly Lister's method. It was necessarily a rather tedious proceeding, but the tourniquet made it a perfectly bloodless one; and by first breaking down (as Lister advises) all the inflammatory stiffness by free movement of the parts, the later steps were rendered much less difficult than I had anticipated.

The after-treatment was pursued exactly on Lister's plan. Passive movements of the fingers were daily made, and the patient was soon able to move them himself with a freedom and painlessness which surprised me. The swelling subsided, the discharge from the incisions lessened, he gained flesh, and in July I sent him to Seaford. His hand became stronger, but the wounds did not soundly close; and in November he returned, with fresh

swelling, a sinus on the back of the wrist, and another at the ulnar side of the metacarpus. This I laid open, and found the surfaces of the radius and ulna covered by healthy soft tissues, but the ends of the four metacarpal bones were rough and bare. These were removed, and the wound was washed with a solution of chloride of zinc. In December the sinus and the incision discharged very little; his wrist was stronger, and he had a relatively free use of the fingers and thumb. He again went to Seaford for a month. After the last operation the wrist rapidly consolidated and gained strength, so that he became able to undertake light work; the sinuses did not, however, quite heal for another month. In June of last year (1867) he became a nobleman's coachman. A small leather splint, reaching from the palm a few inches up the forearm, gave his wrist all the support it needed. It was entirely concealed by a glove, and no one who did not critically compare the two wrists would have observed his defect. He had good flexion and extension of the fingers and thumb, could readily oppose the thumb and forefinger, and had pronation and supination through a slight range. He told me that he could do his work well; his wrist was quite painless; and I saw him several times afterwards driving a brougham.—Old Burlington street, Oct. 1868.—*The Lancet.*

Phimosis Simulating Vesical Disease.

THIS boy, æt. twenty-five months, has suffered from symptoms of stone in the bladder for four months. He passes water frequently, probably every hour, and it comes away in drops, rarely in a full stream. Micturition is attended with straining. The prepuce is elongated, and he is constantly pulling at the parts. He has never passed any blood and there is no prolapsus of the rectum.

Stone in the bladder is very common at an early age. One-third of all the cases occur before the seventh year and one-half before the tenth year of age. Whenever, therefore, in a child there are found symptoms of vesical trouble, the presence of a stone may be suspected, and the operation of sounding should always be instituted. Other vesical troubles are rare in children. It is fortunate that children recover so readily from lithotomy, as they are so frequently the subjects of this disease. This child has been sounded by two physicians, who thought they detected a stone. The child was placed under the influence of chloroform and the sound introduced. No stone could be found. The end of the sound moved over a space of about one and a half inches of roughened surface, feeling like a calculous deposit on a thickened mucous membrane. The preputial orifice is much smaller than it ought to be, and it is probable that the urine being retained from this cause, the mucous coat of the bladder has become thickened and the seat of a phosphatic deposit.

The question of the existence of a stone should never be decided

by the first examination. The patient should always be sounded several times before passing judgment. He should be sounded when the bladder is full, when partially full, and when empty. Sometimes when the bladder is empty the folds of mucous membrane fall over the stone encysting it, as it were, so that it eludes search. Circumcision was recommended for the relief of the trouble.—*From Prof. Gray's Clinic.*

Treatment of a Fractured Rib: By Dr. J. C. McMechan, Cincinnati.

In the present state of surgery it is not deemed advisable to elevate a depressed rib. Erichsen says, "Any displacement that may exist, usually remedies itself without the necessity of the surgeon interfering. If, however, a portion of the rib continues depressed, it had, I think, better be left so." The one grand object in the treatment of a fractured rib, is to prevent undue motion of the broken bone, so that the pleura or lungs may not be injured, or an inflammation set up in them. But how is this movement of the ribs to be controlled? Most surgeons have come to the conclusion, that to bandage the chest with a broad flannel roller, or to "apply a roll of adhesive plaster round the chest," are the best means of attaining this end.

One surgeon recommending the latter form of dressing says, "the plaster must be about a foot in width, and should be sufficiently long to make one and a half turns round the body. It should be applied very tightly, and may be left on for ten days or a fortnight, when it may require re-application. It supports the chest more firmly and evenly than an ordinary bandage, affording the patient great comfort."

If there are ribs fractured on each side of the chest, we will not argue but this is the best dressing; but it seldom occurs that such a fracture takes place, it being usually confined to one side.

The fracture occurring on one side, the patient is to be placed in the sitting posture. Three strips (supposing one or two ribs to be broken), of adhesive plaster sufficiently long to reach half round the body, (from the vertebra to the sternum), and two inches and a half in width, are to be prepared. The patient is to "hold his breath" whilst these strips are being applied. One is to be placed directly over the fractured rib, extending from the vertebra to the sternum, and in the same direction as the rib. The other two pieces are to be placed diagonally across this one. The first piece will have a tendency to unite the fractured ends of the rib, and the three pieces together will so compress the one side of the chest, that little movement of the ribs will take place on that side in respiration. We have tried this dressing only in one case, but found it to be much better than the roller dressing.

On August 15th, Miss G. B——, whilst taking a drive on

Spring Grove Avenue, was thrown from the buggy and had two ribs broken on the left side—the sixth and seventh true ribs. On first seeing the case we applied a roller bandage, which gave the patient but little relief. On visiting her the next day we applied the dressing previously described, which gave her almost instantaneous relief from the pain felt on respiration. The fractured ribs have united nicely, and there is very little depression left, which at first was well marked. The patient was of course kept in bed during the treatment.

We claim for this the advantage, over other forms of dressings, that it relieves the pain felt on respiration more effectually, and at the same time tends to unite the fracture as well as any other dressing yet proposed.

Our remarks are based on but one case, but we ask those practitioners meeting with this form of fracture, to give the pressing described a trial at least.—*Cincinnati Lancet and Observer.*

Hernia of the Ovary; Operation; Death.

Dr. Englisch mentioned this case at the meeting of the Medical Society of Vienna (April 3rd, 1868). The patient was thirty-two years old, had suffered from a reducible tumor in the left groin for thirteen years, and presented, on admission into the hospital, all the symptoms of strangulated hernia. As the taxis did not succeed, the usual operation was resorted to, and, on opening the sac, the ovary and Fallopian tube were discovered, but not a trace of intestine. The former were tied and removed. Twelve days after the herniotomy the patient died of severe erysipelas and partial peritonitis. At the next meeting, Dr. Weinlechner brought before the notice of the Society a woman of thirty-two, presenting ovarian hernia on both sides. She had never actually menstruated, but at each period molimen was apparent, with swelling of the inguinal tumors. The vagina ended above in a cæcal pouch, and absence or extremely small size of the uterus was suspected. The patient was not deficient in sexual sensations.—*The Lancet.*

Diagnosis of Cancrum Oris.

At the Dublin Hospital (*Med. Press and Circ.*) Mr. Croly, one of the hospital surgeons, made some remarks in reference to the diagnosis of this disease, after an operation made on the person of a little child five years of age. He stated that canerum oris is a curious sequela of measles, and found among delicate and ill-nourished children. This disease is often confounded with mercurial salivation, but may easily be diagnosed by an account of the case, and by the fact of this disease attacking only *one* side of the mouth, while mercurial sloughing occurs at both sides. —*Medical Record.*

A Case of Subclavicular Dislocation of the Humerus. Reduction after Eight Years and Three Months by Manipulation—Recovery of whole use of Arm: By A. S. Bostock, M. R. C. S.,

Robert B., aged thirty-six, applied to me for advice about a cold he had, accompanied by a cough, which he said he had caught after getting wet through, fourteen days previously. I told him to strip his clothes off, that I might have an opportunity of auscultating him, which I did, and then noticed he had an abnormal appearance of his left shoulder-joint. I then examined the joint, and found the head of the humerus in the subclavicular space lying on the second and third ribs, the clavicle raised, and the scapula pressed by the deltoid muscle (which worked round the back of the shoulder, and made the humerus and scapula act simultaneously); so when at work he could not do any over-hand work with that hand, and when at rest in bed he was obliged to extend his arm at a right angle to his body before he could place his scapula flat in order to lie on that side. There was a difference of half an inch in the length of the two arms, and the muscular development of the left upper arm was equal to the right, and that of the left fore arm greater than that of the right.

History.—Is a brickmaker, and bellringer in his parish church, and it was at the latter occupation he met with his accident (which he said had come on from the rheumatics); but on inquiry I found that eight years ago last Christmas-day he was bellringing, and his bell being out of order, instead of going quite up, it went half-way up, then came down, and went up with a sharp jerk, taking his left hand, which was entwined in the rope, up with it; after which he fell on his knees on the floor of the belfry and almost fainted. After this, as was natural, his shoulder was stiff, and he had pain down his arm and up his neck. He could neither put his arm on his head nor clasp his hands behind his back. A year after the accident, he sought advice, and was unrelieved. Two years ago he had rheumatic fever, and has been quite well since that till I saw him with his cold.

Operation.—Every Surgeon knows the difficulty he has, when examining a patient for injury to the extremities, to persuade the patient to allow him to have the command of the injured limb in order that he may rotate, supinate, flex, or extend at his own discretion. Now, the chief cause which prompted me to try something for this man was his allowing me the free use of his arm for my examination, After examining him, I told him what was the matter with his arm, and that I would do all in my power for him, when he said "You may do what you like; the pain has been most excruciating this last fortnight." He refused chloroform, so I laid him flat on his back on the floor, and with one hand I held the scapula steady, and rotated the arm with the other. This I continued for about fifteen minutes, at which time I found that I could rotate the humerus without moving the scapula. Next I got a jack or round towel, and passed it twice round the

shoulder-joint, which was held for me whilst I made extension firmly and gently upwards, relaxing my hold when most extended, and bringing the forearm across the chest; this I did three successive times, and then I removed the towel and had the shoulder grasped firmly by the hand, with the palm of the hand on the outside of the shoulder pressing on the scapula, with the fingers on the head of the humerus. Then I made extension and brought the arm across the chest, and the head of the bone slipped into its place with a characteristic snap. The patient has free use of the arm, and can work as well as ever.

Horsham Sussex.—*Medical Times and Gazette.*

Cases Illustrating the Effects of an Adherent Prepuce upon the Urinary Organs. (Under the care of Mr. THOMAS BRYANN.)

IT cannot be too much kept in mind, said Mr. Bryant the other day to his class, that an adherent prepuce by itself is capable of producing symptoms of difficult micturition, incontinence of urine, retention of urine, intermittent-flow of urine, hæmaturia, and, indeed, any other symptom of urinary disease; for it seems that every source of irritation at the renal end or the external end of the urinary passage is referred to the bladder, or rather shows itself in the most marked degree in that viscus. In any case, consequently, of supposed stone in the bladder in a child, the penis should be well examined, for in a large number of cases the symptoms of stone will be found to be caused by an adherent or elongate prepuce.—*Medical Times and Gazette.*

On a Ready Method of Making a Female Catheter: By T. APPLEBY STEPHENSON, Esq., Surgeon to the Nottingham Midland Eye Infirmary, etc.

I AM not quite sure that I am the inventor, or merely the adopter, of the ready female catheter which I am about to describe; but at least I cannot tax my memory with having heard of it before, and it is certainly new to all the medical friends to whom I have mentioned it.

I refer to the employment of a portion of an *ordinary tobacco-pipe*, warmed, oiled and introduced in the usual way. I have been in the habit for several years of using occasionally this simple contrivance, and have never found either the least danger or difficulty in its application. I have shown nurses and friends waiting on the sick how to pass this catheter; and, within the last few days, used, and caused it to be used, in the case of a young girl aged eighteen, suffering from tubercular meningitis.

Every surgeon, especially country ones, must have felt the great annoyance of being called some distance—perhaps in the night—to a case where it is necessary to draw off the urine, and where, suspecting nothing of the kind, he has not brought a female catheter. I know it was in such emergency, at least nine miles from remedy, that I first perverted the tobacco pipe, from its customary purpose. It saved my patient much anguish and danger, and myself a journey home and back of nearly twenty miles just to fetch an instrument. Of course, a large reed or a piece of India-rubber tubing might answer the purpose; but they are not so firm, nor, what is more to the point, so easily procurable; while one could scarcely find "any lone house however lonely," where a tobacco-pipe could not be soon obtained.

The pipe being well oiled and warmed, placed lightly between the thumb and forefinger, inserted in the meatus, and gently wriggled about, any surgeon that chooses to try this plan, in the absence of the regular instrument, will find the thin end of a tobacco-pipe a first-rate ready method of extemporising a female catheter.—*British Medical Journal.*

Discharge of a Portion of Small Intestine After the Operation for Strangulated Inguinal Hernia.

M. Mazel publishes in the *Montpellier Med.* of July, 1868, a case in which the above-mentioned phenomenon took place. The patient was forty-five years old, had never worn a truss, and was operated on the third day after strangulation. A portion of small intestine in a pretty normal state was returned; and the patient remained in a precarious state until the fourteenth day after the operation, when he discharged what he called a piece of skin. This proved to be a piece of small intestine, and the patient slowly recovered. Both Professor Benoit (of Montpellier) and the operator are in doubt respecting the mechanism of this gangrenous separation of intestine.—*Lancet.*

Cancer.

At recent meeting of the British Med. Association Dr. J. R. Wolfe read a paper "on the removal of Cancer by Caustic Arrows and Carbolic Acid."

Case 1.—Epithelial cancer in the inner canthus, involving both eyelids, of nine years' standing. Four openings were made around, and one in the centre of the tumor, into which were inserted caustic arrows. On the third day the tumor came away. Wound treated with carbolic acid dressing, at first strong, afterwards diluted, and with the application of carbolised wadding dipped in

glycerine; healed in a fortnight; no relapse, and scarcely a trace of a cicatrix remained to show the great loss of substance which had occurred.

Case 2.—Cancer of lower eyelid and cheek removed as in last. Discharged cured in eighteen days; no relapse.

The advantage of this mode seem to be—1. Little or no pain; no confinement to bed required. 2. Complete extripation of the diseased part. 3. Gap left, granulates freely, without leaving any mark. 4. It is valuable for removing tumors from regions where no skin can be obtained from the neighborhood, and is also applicable to erectile tumors, nævi, cancer of the breast, &c., occurring in particular persons, places, or seasons of the year when the use of the knife is to be dreaded. The arrows are prepared by making chloride of zinc into a stiff paste with starch, rolling into shape, and drying.—*Lancet.*

QUARTERLY RECORD OF PRACTICAL MEDICINE.

COLLATED BY J. DICKSON BRUNS M. D., PROF. PHYSIOLOGY AND PATHOLOGY, NEW ORLEANS SCHOOL OF MEDICINE.

Chorea.

In the *Brit. and Foreign Med.-Chir. Review*, Dr. H. M. Tuckwell presents the following as his conclusions on the subject of this disease:—

1st. That in death from chorea the presence of warty vegetations on the mitral or arotic valves is the rule. 2d. That these vegetations may be set free, and carried as emboli to the different organs of the body. 3d. That the brain is often found softened; and that this softening may certainly, in some instances, be attributed to plugging of the cerebral arteries. 4th. That the spinal cord is not uncommonly found softened, and that this softening may, in all probability, be in like manner attributed to plugging of the spinal arteries. 5th. That a cardiac murmur may not be heard, even though the valves be seriously diseased; and that consequently certain cases of chorea attributed to pregnancy, fright, worms, etc., can be really due to the presence of vegetations on the cardiac valves. 6th. That the recent investigations into the morbid anatomy of chorea warrant the suspicion that this disease may, at least in its severe forms, depend directly on irritation or softening of the great nerve centres, induced by the presence of emboli in the blood-vessels of those centres.—*N. Y. Med. Journal.—Medical Record.*

Therapeutic Action of Digitalis.

Edward Mackey, M. B., Joint Professor of Mat. Med., Queen's College, Birmingham (*British Medical Journal*, May 30), reports clinical observation of the use of digitalis, with cases. In reply to the question, may we expect digitalis to strengthen, and make regular a feeble beating heart, or must we dread its depressing pulsation to the verge of extinction? He says, "We may expect the former in a large number of cases." Quoting opinions, he states "that Dr. Gull's clinical experience, clearly settled in his own mind, that digitalis was capable of diminishing the frequency of the heart's beat, and increasing the power of the heart's impulse; and is especially useful in cases of disease of the left side, in which the action is very rapid and feeble." Dr. Wilks remarks of a case of dilated enfeebled heart: "This was just one of those cases where digitalis might be expected to do good." Dr. Fuller says, "The cases of heart disease most benefited by digitalis, have been those in which the heart has been weak and dilated, pulse feeble and irregular." *Effects of Complications.* (*a.*) A state of fatty degeneration, if far advanced, contra-indicates its use; for its subject is liable to sudden death. In dubious cases, commence with small doses (5 m.), better combine with ether, watch carefully; increase gradually; stop occasionally. (*b.* and *c.*) Mitral regurgitation and mitral obstruction do not contra-indicate its use. (*d.*) Aortic regurgitation is a contra-indication. Dr. Mackey does not think, from the experience of the profession, although the reasoning is not clear, it is prudent in this condition to use the durg. (*e.*) In aortic obstruction, however, this remedy may be most useful. (*f.*) Hypertrophy, as a result, must be referred to other lesions for its indications. This drug is not likely to benefit functional disorders, palpitation, etc. As to *preparations*, Digitaline is uncertain; the infusion is apt to nauseate. In preparing the tincture, great care should be used in the selection and keeping of the leaves. Doses: It is better to commence with small doses (5 m to 10 m); sometimes the dose can be rapidly increased to 30 m. As a general rule, such a dose is often enough repeated twice in the twenty-four hours.—*Half-Yearly Compendium.—Medical Science.*

Treatment of Neuralgia.

Dr. William A. Hammond, in a lecture delivered at the Bellevue Hospital Medical College, New York, reported in the *New York Medical Gazette*, for April 25th, 1868, recommends in the treatment of neuralgia to give tonics: the best of the minerals is iron, the best of the vegetables, quinine, and they may be advantageously combined. For eradicating the tendency to the disease the quinine should be given in frequent small doses; not

more than two grains, even half a grain is often sufficient, with one or two grains of iron. The quinine may be used subcutaneously. I have used an etherial solution, and have been pleased with its working. A dose of one or two grains once a day is sufficient, as it all is absorbed and none goes off in fæces, as it does if given by the mouth even in very small doses. This I have proven by experiment. Of course arsenic may be used as a succedaneum.

A remedy which at one time enjoyed great reputation, is belladonna. Some years ago Mr. Turnbull published a large number of cases, all of which had been successfully treated with this agent. This great uniformity of success laid the report open to suspicion, either that there had been a mistake in diagnosis, or that the reporter was misrepresenting. Nevertheless, a good extract of belladonna is a very efficient drug against neuralgia. I have not used atropia much, because I have found some specimens quite inert, and because if it be good the dose is very small and difficult to graduate. The use of belladonna is chiefly to change the habit of the system, and you may begin with doses of one-fourth of a grain and increase as necessary, It acts in some unknown way upon the nervous system; very probably, partly by contracting the capillaries, just as it does in diseases of the spinal cord; but this is not its only action, for ergot, which has still greater power over the capillaries, does not influence neuralgia so favorably.

The hypophosphites may be given in doses of from ten to twenty grains, or of a drachm of the syrup. They act by setting free phosphorus in the stomach. They are less efficacious, but less offensive than the pure phosphorus. If the latter be used the dose is from one-sixtieth to one-fortieth of a grain.

The Relief of the Paroxysm.—The patient will generally submit to any infliction if it gives a reasonable hope of alleviation of the pain. I remember to have seen a woman in the West whose face had been shockingly scarred by the application of a hot poker for facial neuralgia. You may use first, subcutaneous injections of morphia. Formerly it was thought necessary to make the injection near the painful point, and thus sometimes accidents occurred, such as supra-orbital abscess. You should always avoid the face for subcutaneous injection; a good point is the inside of the arm in the loose vascular skin. Three or four drops, containing the eighth of a grain, are generally sufficient, though if the pain be severe a very much larger quantity may be given, and I should advise you always to give enough, so as not to be obliged to repeat the operation.

Next in value probably is aconite. If you simply rub with a rag the tincture upon the painful point till pricking is felt, its internal use is unnecessary. I once caused temporary paralysis of the arm in a lady by too free an application of the tincture. Chloroform, internally, externally, or by inhalation, not carried

to the degree of insensibility. Beyond the immediate relief repetition of the inhalation may break up the paroxysm.

You may also successfully use galvanism for the relief of the paroxysm, and for breaking up the habit of the disease. So far as my experience extends, both objects are best accomplished through the use of the direct galvanic current. For the first apply the poles so that the position is near the seat of the greatest pain, and pass the current continuously, for several minutes. To change the habit of the system, apply one pole to the nape of the neck, and the other over the course of each systemic nerve, moving it along the neck. Duchenne thinks you can generally relieve neuralgia by Faradization. I have not been so uniformly successful, yet I think you will often effect a cure by the applications I have mentioned.

As a last resort you have the surgical remedy of division of the nerve. Formerly the blunder of dividing the facial, or motor nerve was committed. Of late some quite difficult operations have been performed, such as the section of the inferior maxillary and supra-orbital nerves. If you resort to such an expedient be sure to excise a portion, say a fifth of an inch, as simple division does not prevent the reunion of the nerve. The regulation of the diet should be the same as for the diseases of which I have already spoken. The use of tea I think generally aggravates neuralgia; while coffee on the contrary does not, but if strong is often of service. You will therefore do well to interdict the use of the former.—*Half-Yearly Compendium.—Medical Science.*

Inhalation of Spray of Tr. Ferri Chloridi in Pulmonary Hæmorrhage.

Surgeon George M. Sternberg, U. S. A., Fort Riley, Kansas, reports, in the *New York Medical Record*, February 1st, 1868, the following case of traumatic pulmonary hæmorrhage, which presents some points of interest, and illustrates one of the uses of Richardson's spray apparatus.

Mr. W., a merchant, aged twenty-eight, while attempting to put a drunken man out of his store, received a stab in the neck, inflicted by a long narrow-bladed butcher's knife. The knife entered the neck on the right side two and one-half inches above the clavicle, and just to the right of the common carotid artery, cutting the anterior jugular vein, and passing downward and backward into the lung.

The bleeding from the vein was free, but a bystander controlled it by pressure with his thumb, and it did not recur.

Mr. W. at once commenced coughing and expectorating bright red blood, filled with minute bubbles of air. From this time until I was called (about eighteen hours) he continued to cough up every few minutes a mouthful of blood.

When he was first wounded he sent for a hospital steward of the army, with whom he was acquainted. The steward probed the wound, and stated that the œsophagus was wounded. I presume his diagnosis of the case was founded upon the facts that blood came from the mouth, and that any attempt to swallow the medicine he gave produced a violent paroxysm of coughing. The steward prescribed tinct. ergot with a view of controlling the hæmorrhage, and injections of beef-tea and brandy to keep up the pulse. As the hæmorrhage continued and the man was rapidly becoming exhausted, his friends became alarmed and sent for me. After seeing the case, I at once sent for my Richardson's spray producer and some tinct. ferri chlor. The distance was six miles, and it was two hours before my messenger returned. In the meantime Mr. W. continued to cough up a mouthful of blood every few minutes, and the total amount during the two hours could not have been less than sixteen fluid ounces. Perfect rest was enjoined, and no treatment adopted until the spray apparatus arrived. I then added half ounce tinct. ferri chlor. to five ounces of water, and placing the extremity of the instrument well back in the mouth, caused the spray to enter the lungs, by pressing the bulb at each inspiration. This was continued for about a minute, and after an interval of five minutes was again resumed for a minute.

The hæmorrhage was arrested completely, and did not recur. About twenty minutes after a hypodermic injection of morph. sulph. gr. one-fourth was administered, and in a very short time the patient fell into a quiet sleep. I remained with him all night. He occasionally woke up for a moment and dropped asleep again. The next morning he commenced to cough up occasionally a little dark clotted blood, evidently a part of the clot formed by the action of the tinct. ferri chlor.

Perfect rest was enjoined, and injections of beef-tea and brandy were administered from time to time during the next twenty-four hours. The following day he was able to swallow a little wine and beef-tea, and in addition to the small clots of dark blood, a little muco-pus was expectorated,

He continued rapidly to improve, the external wound healing by first intention, and there being no inflammation of the lung beyond the immediate vicinity of the wound. He is now (nine days after the injury) able to sit up in his bed, and to attend to some business.

He lost his voice entirely from the moment he was wounded, and has not yet regained it. He can only swallow liquids, in small quantities at a time, and then by an effort and using great care, as there is a disposition for them to pass into the larynx, producing violent paroxysms of coughing.

These phenomena are probably due to section of the recurrent laryngeal nerve, or some of its branches.—*Half-Yearly Compendium.*

On Inflammation and Suppuration: By Dr. J. Cohnheim, Assistant in the Pathological Institute of Berlin.

The author investigated the phenomena of inflammation in the cornea of the frog, and found (1) that it is not true, that the stellate corpuscles enlarge and form pus cells within themselves, either from their nuclei or cell contents; (2,) that corneal opacity depends upon the presence of pus corpuscles within it; (3,) that the pus corpuscles are situated between the cornea corpuscles, and that the former alter their form or position, while the latter do not. From these observations he concludes that pus corpuscles must either be derived from the pre-existing movable lymph corpuscle-like bodies in the cornea, or have travelled into it from without. The latter view he deems correct. He found that simple traumatic keratitis always begins at the margin of the cornea and spreads inwards; also by adopting Rechlinghauser's plan of coloring the white corpuscles by the introduction of colored solution (Cohnheim used aniline blue) into the lymph sacs, the veins, or the arteries, he satisfied himself that "the pus corpuscles in the inflamed cornea had formerly been white blood corpuscles, and had passed i .to the cornea from surrounding vessels."

In order to ascertain how these structures escaped from vessels, he experimented on frogs, which he first paralyzed by means of curara (a poison which, given in small doses, does not influence the circulation). He selected male frogs, and, by a particular arrangement, placed the mesentery under a microscope in such a way as not to interfere with the circulation. He found (1,) that the arteries become dilated; (2,) that more slowly, but to a greater extent, the veins undergo the same change; (3,) that the capillaries also become widened; (4,) that with these alterations the circulation becomes slower; (5,) that after a time, in the veins a peculiar change occurs. The layer of the blood stream, next the walls of the blood-vessels, of presenting the natural clear appearance, becomes filled with white corpuscles, which gradually accumulate, and move more and more slowly, until at length they stop; while the red column continues to move in the centre. But presently another change appears. "On the outer contour of the venous wall there appear small, isolated, colorless, bud-like elevations, as if the wall itself were forming small outgrowths; gradually these enlarge. After a time, the half of a spherical body of the size of a white blood corpuscle appears. This, after a time, becomes pear-shaped, the broad end of the apex pointing towards the vessel. From the rounded end numerous little processes project, and the corpuscles assume various forms. Above all, however, the mass separates more and more from the vessel, and at last we see a colorless, somewhat shining, contractile, corpuscle with one long and several short processes," in fact, a white blood corpuscle. This process goes on in many parts of the venous wall, which nevertheless remains intact.

When the capillary current is much impeded, a similar change occurs, but the red as well as the white corpuscles pass out.

The slowness of the circulations, and the accumulation of the white corpuscles, depend upon the dilatations of the vessels. How, in what way, and by what power, do the corpuscles pass out? Cohnheim finds that in the interior of the veins, capillaries, and arteries, there are stomata similar to those demonstrated by Rechlinghauser and Oedmanson in the walls of serous cavities, and that these communicate with canalicular spaces. It is by these openings that the corpuscles pass out. As to the power, he believes that it is by the peculiar amœba-like contractility that they escape.

During these processes he finds the rest of the tissue unchanged; the cells covering the peritoneum are unaltered, even when they are covered with a layer of lymph and pus.

These results, obtained by experiments on frogs, he has verified by examination on young rabbits and cats.

He would thus transfer the seat of pus-cell formation from the connective tissue to lymphatic glands.

In concluding his paper he remarks that it will be necessary, in some degree, to modify the prevalent theories of acute inflammation—at least of that form which is accompanied by suppuration "For this species of inflammation the vessels again come into the foreground. Without vessels no inflammation, dilatation of vessels, injection, and hyperæmia, the necessary first stage. In vascular parts it is their own vessels, in non-vascular, those of surrounding structures, that supply, as in ordinary nutrition, the plasma; in inflammation the pus corpuscles, as a second requisite for the occurrence of suppuration, necessitate the presence of spaces which permit a moving forward, and an accumulation of colorless corpuscles"—and such spaces are formed by the connective tissue.—*Virchow Archive*, Sept.—*Medical Gazette.*

Treatment of Diseases of the Heart.

Dr. S. O. Habershon, in an interesting paper in the volume of *Guy's Hospital Reports*, lays down *seven* principles of treatment in all cases of heart disease.

The first is, as far as possible, to *lessen its work;* and this may, to some extent, be effected by mechanical rest, by a recumbent position, and by the avoidance of sudden changes of temperature.

The *second* is to *insure regularity of action*, by avoiding mental excitement, by guarding against indigestion, and by never allowing constipation to continue.

The *third* is to *lessen distension*, especially the right side of the heart, by purgatives, diuretics, and by mechanically diminishing the quantity of fluid in circulation.

The *fourth* is the prevention of syncope. With this view, sudden muscular movements must be avoided; stimulants may be required, as ammonia, brandy, etc.; and sedatives must be withheld or cautiously administered.

The *fifth* is to strengthen the muscular fibres of the heart, by suitable nourishment, a bracing air, if other conditions allow; chalybeate medicines, and if the patient be exhausted by want of sleep, this symptom must, if possible, be relieved.

The *sixth* is to prevent fibrillation of the blood. For this purpose carbonate of ammonia will often be useful; other alkalies, as potash, soda, and their salts may be beneficial, but, if long continued in considerable doses, Dr. H. says, they depress the action of the heart. The acetate and iodide of potash may be advantageously combined with the carbonate of ammonia, or perhaps the hydro-chlorate of ammonia.

The *seventh* is to prevent secondary complications, and to relieve them when produced. These complications are—1st, broncho-pneumonia and pleuritic effusion; 2d. pulmonary apoplexy and other hæmorrhages; 3d, visceral engorgement, hepatic and renal congestions, with ascites and anasarca. By freely acting on the bowels, the portal congestion is greatly diminished, and the liver is enabled to act in a normal manner. Thus a free mercurial purge is of great value. The kidneys may be excited to a more vigorous action by a combination of mercurial medicine with squill and with digitalis, when the latter can be borne. Salivation should be avoided. Diuretics are useful. An effectual way of diminishing the anasarca is by puncturing the skin on the thighs. The pulmonary engorgement is sometimes greatly reduced by applying cupping-glasses between the shoulders, or by the application of a blister to the chest.—*Rankin's Abstract.*—*Leavenworth Medical Herald.*

QUARTERLY RECORD OF OBSTETRICAL SCIENCE.

COLLATED BY JOSEPH HOLT, M. D.

Case of A Fibrous Tumor of the Uterus eliminated by softening, in a Female who had Disease of the Heart: by F. OPPERT, M. D.

SARAH M., aged forty, a housekeeper in the city, presented herself at the City Dispensary, on August 20, 1866. She is pale, married sixteen years ago, but the husband is dead, and she had no children. For the last twelve years she has been ailing and suffering from uterine symptoms. She has frequently had hæmorrhage either coincidently with the menstrual period or at other times. During the last two years menstruation often was painful,

the pain being dragging and sometimes like labor-pain. The back ached, and the legs often felt numbed. Frequent micturition was not a very distressing symptom, as the patient did not complain of it, but when more closely interrogated she admitted that she passed water at times rather frequently, and with slight pains. A discharge from the vagina was not always present, but lately it has become very annoying. The backache has been troublesome for the last two years.

An examination of the uterus was made with the finger. The os uteri was found rather high in the median line, pointing backwards. The portio vaginalis soft, round, smooth, and almost completely closed. The fundus uteri in front and a little lower than the os, the womb being slightly fleeted at the cervix. The fundus presented an even, rounded body, which felt like a child's head, and was quite as heavy. It was balotting, being movable, and not fixed by adhesions; it did not deviate to one side, but was in the median line of the body. The abdomen measured, three inches below the navel, three feet four inches. An introduction of the sound was depreeated by the patient. The discharged fluid was of a yellow color, resembling pus and of a most disagreeable smell which was somewhat different from that peculiar to carcinoma. Patient believed it to have been foul for some months. The breasts were not tender, but reduced in size, and the nipple was normal.

Another series of symptoms depended upon the disease of the heart. Patient had had palpitation for the last ten years. It was brought on by any exertion, such as mounting the stairs. A soft blowing murmur was detected by the stethoscope, being synchronous with the systole. It was strongest under the left nipple, its sound not extending for more than an inch to the right and left, nor was it audible further upwards. The second pulmonary sound was slightly strengthened, compared with that of the aorta. The latter and the tricuspid valve did not offer any abnormity. The ictus cordis was between the fifth and sixth rib, being not particularly strong.

The dulness in the region of the heart slightly exceeded the normal limits, not to the right though, but solely to the left. There was no bruit in the vesels of the throat.

The pulse was 80°, not quite regular, soft; the tongue a little whitish, and the appetite not good. The dulness of the spleen slightly exceeded the normal confines, and the patient was very weak.

Ordered to take tinctura ferri sesquichloridi ♏ xxv. in mistura menthæ ℥j. ter die, and to inject, a solution of tannin (℥ij.) ℥x. with equal quantities of water with the india-rubber ball three times a day.

Three weeks later patient was considerably better as regarded her general strength. On September twenty-second she had her menses, and hæmorrhage with them. Shortly afterwards she

left for the country (Wales), and it was nearly a year before I saw her again.

June 27, 1867.—On this day patient applied again at the City Dispensary, but it was not for uterine complaint; she had hydrops and anasarca. The feet became a little swollen near the ankles about six months ago, and the abdomen swelled afterwards. Recently, however, both had decreased in size, the patient passing a great quantity of water without taking any medicine. There was not much fluid in the cavity of the abdomen, and patient evidently was recovering from the dropsical affection. The pallor of the face existed as before, and the murmur was heard unchanged.

The patient stated that, during her absence, she frequently passed from the vagina, lumps of substance which she described as looking like "liver" and having a foul smell. The uterus was found anteverted, but not heavy, and the rounded tumor was gone; the sound could be introduced three and a half inches, but detected no heterogenous plasma. There was scarcely any discharge.

Patient soon somewhat recovered by taking tinctura ferri acetici.

Remarks.—The case is, in many respects, noteworthy. The diagnosis was fibrous tumor and disease of the heart, the former being eliminated by the forces of nature. The presence of a tumor could not be disputed. Pregnacy was out of the question, considering the state of the breasts, the slow growth of the mass, and other circumstances. One might have thought, for a moment, of hypertrophy of an anteverted womb; but the weight of the mass was too heavy for this, and moreover the portio vaginalis would not have been free from hypertrophied tissue. Fibrous polypus would have caused many of the symptoms observed in the patient, but the os uteri would hardly have been closed, as a large polypus of several years' standing is likely to distend the orfice. Carcinoma of the fundus uteri could not be assumed; it is not a common disease, and in this case its symptoms were not present. There were no lancinating pains; the aspect of the patient spoke against malignant disease. The mass was movable, and had grown too slowly during twelve years for cancer. The fœtidity of the discharge might, for a moment, have misled the observer. The latter history of the case disclosed more evidently the circumstances in which it originated, confirming at the same time the original diagnosis. I may be pardoned mentioning that the handbooks of English authors on female diseases do not advert to the quality of the discharged fluids as important for the diagnosis of such a case. A peculiar fœtid discharge, as described above, in a person who has a non-malignant tumor, is sufficient proof of a softening process in the same, and enables one to give a safe prognosis. It is rare that we observe the cure of a large fibroid by the unaided forces of the system; but where this happens, it is rather by the process of calcification, gradual atrophy, or fatty

degeneration, than that of softening or sloughing. It is, further, rare that the symptoms of irritation of the bladder are so slight, as in this case, that the tumor presents a rounded even mass and no nodules, and it is so rare that it proceeds from the anterior wall of the womb. Generally it takes its origin from the posterior wall, and being located in the space of Douglas, presses upon the rectum. Respecting the heart symptoms, the murmur might have been referred to anæmia; but then there was dulness of the region of the heart to some extent, and the second sound of the pulmonalis was strengthened. The ictus cordis was not strong, but this was owing to the loss of blood. The place where the murmur was heard, and its systolic character, left no doubt that the mitral valve was defective, insufficient; the dulness argued for slight hypertrophy. The anasarca beginning round the ankles confirmed the diagnosis of disease of the heart. The latter was probably present for ten years, and the case affords an example of the smaller danger to life arising from mitral regurgitation compared with obstruction of the orifices.—*Medical Times and Gazette.*

On a Case of Partial Placenta Prævia: By Robert Fowler, M. D., District Medical Officer of the East London Union.

About one A. M. Nov. 9th, 1867, I was summoned by the union midwife to M. M——, aged thirty-five, residing at King-court, one of the most wretched places in my district, on account of excessive ante-partum flooding. The patient *had arrived at full time* with her sixth child. She had enjoyed good health in her pregnancy, *with the exception of a pain in the left hip during the latter months.* Her five previous labors had been natural and quick. In this last pregnancy *her work had been harder than heretofore*, she having to carry heavy weights up and down stairs. A little before midnight of Nov. 8th she was awoke *by a sudden gush of fluid per vaginam, without the least pain. She had had no sudden excitement or unusual physical exertion during the preceding day.* Finding that the escaping fluid was blood, she sent for the midwife, who found her standing up and gasping, and still profusely flooding. She was placed on the bed, some brandy-and-water was administered, and an unsuccessful attempt was made to ascertain the presentation. On my arrival I found her in a state of collapse—pale, cold, feeble voice, and almost pulseless. Fluid and clotted blood was still pouring from her, and "she had flooded a pailful." *The presentation was so high* that I could not make it out, until I had the whole hand in the vagina. The os was dilated to the size of the mouth of a wine-glass. *It was impossible without great and excessive violence to have got my hand through the os.* I plainly felt the edge of the placenta reaching to

the level of the posterior lip of the os, and the posterior portion of the cervix was clearly thickened by the attachment of the spongy mass. In front of this latter I detected the fœtal head *covered with the membranes. There was not the least uterine pain.* Finding it impracticable to introduce my hand, I passed two fingers through the os, and *completely detached the placenta, as high as my fingers could reach, from its cervical attachment. Immediately I had effected this all hæmorrhage ceased.* I then gave one scruple of powder of ergot in brandy-and-water, and covered the poor shivering thing with what wretched means were at hand. There being no food in the house save bread and tea, I had some of the latter made, and in about half an hour's time gave her therein another dose of the ergot. No pain followed. The woman had, however, wonderfully rallied, had become warm, talkative, and acquired a fair pulse. Although the membranes somewhat protruded through the os, I now determined, as there seemed no necessity to hasten or force labor, to *watch and see what Nature could or would do.* As a matter of precaution, previously plugging the vagina, I left her in charge of the midwife, who had soon also to leave, being sent for to another case. 3 I saw the patient again at five P. M. *There had been no hæmorrhage and no pain.* She was doing well. To continue her brandy, tea, and sopped bread. At nine A. M. she obtained the necessary medical comforts. At two P. M. matters were still the same. As she complained of inability to make water, I removed the plug, *which was scarcely stained with sanguineous discharge.* She received four visits from the midwife during the day. At eleven P. M. I found her complaining of pain in the lower belly. This evidently depended on distended bladder, and was at once relieved by catheterism. The os was now more dilated and softer, and the head was just entering the brim. There were still no pains. In an hour after my visit to the patient pains came on, which the midwife on her arrival found well established. *Nature had ruptured the membranes,* the head was in the cavity, and completely through the os. *A still-born male child was naturally expelled, without the least return of hæmorrhage* either before or after its birth, at between two and three A. M. of the 10th. *The bones of the child's head were separated, the whole body was discolored, and the cuticle desquamating.* Unfortunately no notice was taken of the appearance of the placenta. The woman did perfectly well.

Remarks.—This case very forcibly illustrates the implicit reliance which may put on the ability of Nature (when properly assisted) to terminate a case of placenta prævia. The italicized portion of the above description sufficiently indicate the several physiological and therapeutical points so ably laid down and combated by Dr. Barnes, in his Lettsomian Lectures for 1867. I believe the case more than establishes his views, inasmuch as, having full command of the patient I determinedly resisted the very great temptation of rupturing the membranes.

Bishopsgate-street Without, June, 1868.—*Lancet.*

Bromide of Potassium and Antimony in Puerperal Convulsions: By T. N. Simmons, M. D., of Hagerstown, Md.

A short time since, Dr. William Regan attended upon the accouchement of Mrs. R., aged eighteen years, large sized and fleshy. The labor progressed with ordinary rapidity and severity, presenting nothing uncommon to the primipara, until the head had reached the inferior strait when unexpectedly she was thrown into a violent convulsion. This was soon followed by a second, third, fourth and fifth paroxysm, with an interval of twelve or fifteen minutes between each. By this time, the forceps were obtained, and the patient delivered of a moderate sized living child. It was hoped that this procedure would at once prevent a continuation of convulsive paroxysms, but it failed so to do, or even to moderate their frequency or severity. During the interval between the eleventh and twelfth paroxysm, I arrived and found the patient under the restraint of two or more persons, such restraint being necessary to prevent injury from tossing about; but during the paroxysms, this restraint was unnecessary, as her decubitus was then upon the back, with the limbs extended, and every muscle of the body apparently in a state of vehement agitation. She was entirely unconscious, the respiration deep and labored, combining the apoplectic stertor. The cheeks flushed with a purple hue, pupils dilated, pulse one hundred and thirty; the tongue so severely contused that it protruded from the mouth, and altogether the patient at this stage, presented the most formidable aspect that can be imagined.

We determined first upon the inhalation of chloroform, thinking it might prove the most speedy method of relief, and although it delayed the paroxysms somewhat, they nevertheless returned with greater intensity, and during the administration of the chloroform, the respiratory act became so slow and imperfect, that it induced a degree of asphyxiation, the face becoming more congested and livid, it was abandoned as unsafe.

The bromide of potassium was then given in combination with the tartrate of antimony, beginning with the dose of forty grains of the bromide to one-half of a grain of the antimony. In connection with one-half of a grain of the antimony, ten grains of the bromide was given every hour and a half, or two hours, until three grains of the antimony were taken.

The result of this treatment was very manifest and gratifying. After the first dose, there was a return of four paroxysms; the first occurred within an hour, the second in two hours, less five minutes; the third (as reported by the nurse) between three and four hours; the fourth in eight hours. Their intensity and duration also greatly diminished in the order of their recurrence.

After the last paroxysm, there was a tranquil repose of several hours, when conciousness suddenly returned, and as soon as the patient was able to speak, she expressed her ignorance of having endured the violent and dangerous ordeal, or of having given

birth to her child. Her convalescence has been rapid, and the child improving upon the abundance of her lacteal secretions.

The object for which the antimony was administered in this case was to induce a state of muscular relaxation, in connection with the sedative effects of the bromide of potasium. This, and subsequent observations have caused me to believe that their co-ordinate effects upon the nervous centres renders their combination much more active in convulsive affections, than the bromide would be alone,

As it is generally known that a small quantity of morphia greatly increases the anodyne effect of the bromide, so also a small quantity of antimony renders it a powerful anti convulsive. In the treatment of delirium tremens, convulsive hysteria, etc., the antimony will be found greatly to enhance the powers of that great and invaluable nervous sedative, bromide of potassium.—*Medical and Surgical Reporter.*

Inversion of the Uterus: By CHARLES ROBERT THOMPSON, Esq., Westerham.

MRS. H., aged thirty-five, was in her fourth labor, at full term. The presentation was cranial; the labor quite natural, but rather lingering. The child was expelled at 2.30 P. M. After ten minutes, I rubbed the uterus gently above the pubes, and felt it contract. The insertion of the cord was easily reached *per vaginam*, and the placenta was removed without difficulty. There was no hæmorrhage. Twenty minutes later, I left her perfectly comfortable, with quiet firm pulse, and no hæmorrhage. At 7 P. M., the husband came to get something for her, as she was suffering from "hiccough and wind." I sent her some sal volatile and laudanum. At 10 P. M., he came again, to say she was very ill. I went to her directly, and found her with livid sunken face, cold sweat, no pulse at the wrist, throwing herself about, calling out that she was dying. On placing my hand above the pubes, no uterine tumor could be felt. *Per vaginam*, I found the uterus completely inverted—its lowest part, the upper and inner surface of the fundus easily within reach of the finger, but not close to the os externum. By passing the hand into the vagina, I could grasp the whole uterus. No hæmorrhage was going on now. I made one attempt to reduce it at once; but it was useless, from her resistance and cries. In an hour, chloroform was obtained, and given to full insensibility; brandy and small doses of opium having been sedulously given in the interval. The uterus was firmly grasped by the hand in the vagina, and, after about fifteen minutes' steady pressure, it was reduced. Through the night, she was plied with stimulants, and had hot bottles applied to the

feet and the pit of the stomach, etc. In three or four hours, the danger was past, and she made a complete recovery.

I made out that, when she was to be put into bed, about two hours after the child's birth, she incautiously stood upright, and walked a step or two. She complained of violent pain, and became faint, so that there was difficulty to get her undressed; and from that time the bad symptoms increased. Thus the uterus had probably been six hours inverted.—*British Medical Journal.*

Reports of Midwifery Cases: By JOSIAH COURT, L. R. C. P.

THE following reports of midwifery cases which lately occurred in my practice may prove interesting to some of my fellow-practitioners in the country, who, like myself, are often compelled to trust to their own resources in time of difficulty, on account of the delay in obtaining a second opinion.

Mrs. S——, aged twenty-two years; first pregnancy; at her full time. She was seized with pains at 7 o'clock on the morning of Good Friday last, and sent for me at 8.30 A. M. On examination, I found the vertex presenting, the membranes ruptured, and the os uteri nearly fully dilated, but rigid. I gently dilated the os with my finger, and in about an hour's time the margin of the os slipped over the head. I then gave a small dose of ergot, after which the pains increased in frequency and strength. The head, however, did not move, although the pains were very strong, and I thought that it was impacted at the brim, either on account of its large size and hardness, or from contraction of the pelvis. I waited another hour, during which time the pains became violent, and still no advance was made; therefore judged it best to apply the forceps, rather than allow exhaustion to take place and the child to die. I introduced, without any difficulty, a pair of Simpson's forceps; the blades locked easily, and I began to extract during each pain. For some time I could not stir the head, and then only by considerable force; but after persevering about twenty minutes I delivered the head of a full-grown child. When the forceps were removed, however, the head was drawn back again, so that the chin, mouth, and nose re-entered the vulva. From this I concluded that the shoulders were impacted, and therefore the cranium was retracted by the elasticity of the neck. During each pain I made extension with the head, but the shoulders would not move; so I passed my fingers into the axilla and hooked down the right arm. Still the shoulders remained firm. I then drew the other arm down with a blunt hook, and with some trouble the shoulders were partly delivered. The patient had strong pains; nevertheless the child could not be made to stir, although traction was kept up on the arms and head. It now appeared as if the hips of the child were wedged

in the pelvis of the mother, and this, combined with a large abdomen, was the cause of obstruction. I accordingly perforated the abdomen, and passed a blunt hook around one hip; and after a deal of trouble I delivered the child, which was held fast to the vulva by what at first puzzled me very much, but which I found to be a process of attachment to a second fœtus in the womb. On passing my fingers along this fleshy medium of union I discovered two legs, which were brought down, and were found to be very deformed. I then made traction upon these secondary legs, and congratulated myself that I should soon see the remaining half of the monster. For some time I pulled at the legs with each pain, but no advance was made, and the thing seemed as fast as ever. In this emergency, I passed three fingers of my left hand along the curve of the scrotum, and, high up, I found the mouth of the second head turned towards the right illium, and therefore in a good position for passing the pelvic brim; still the head did not move in the least. On further examination, I found the bones of the head to be soft and elastic, and, assuming the case to be one of hydrocephalus, I determined to perform craniotomy. With a little care I introduced the fingers of my left hand over the back of the fœtus until the tips touched the cranium; I then passed a perforator between my fingers and the back of the child, and pushed it into the skull behind the left ear. Immediately upon opening the blades a gush of water ensued; the head then collapsed, and the remainder of the monster was expelled at the next pain. The placenta followed in ten minutes; and the woman did exceedingly well, only requiring an opiate the first night.

Description of monster.—The first half was a perfect child in every respect, with a large, firm, well-developed head, expansive chest, and stout limbs. The other half, or offshot from the chest of the first child, had two legs, very much deformed and contracted; on one foot the toes were well developed, and eight in number; the other foot had only three processes, without nails. It had no arms, but was attached by its shoulder to the first child; and on the opposite shoulder a finger, with a nail upon it, was placed in the situation where the arm should have grown. The head was very large, and would hold a pint and a half of water. The eyes were defective, and not fully developed. It had a hare-lip and cleft palate.

Mrs. G——, aged thirty-five years, sixth pregnancy, sent for me at five A. M. on the 15th of March, 1868. On examination, I found a tumor filling the cavity of the pelvis, which I thought at first was a prolapsed bladder. She complained of difficulty in passing water; and for some time past, when her bowels were moved, she had a sensation of fullness, as if there was something that wanted to pass, and prevented her from emptying the rectum. The tumor felt soft and elastic, and was covered by the mucous membrane of the vagina. I could feel the os uteri high up in

front of the tumor, dilated to the size of a crown-piece; vertex presentation. The substance filled the cavity of the sacrum so completely, and seemed altogether too far back for the bladder, that I concluded it must be connected with the rectum. By way of precaution, I introduced a catheter, and drew off about half a pint of urine, without in the least diminishing the size of the tumor. It was, therefore, not a prolapsed bladder. The pains increased in strength, and the tumor was forced downwards every time and felt very tense; so I passed the forefinger of my left hand into the rectum, and the two forefingers of the right hand into the vagina, from which I learned that it was an elastic tumor, with no attachment, lying between the walls of the rectum and vagina. The rectum was quite empty. I decided that it must be a coil of intestine that had slipped down before the child's head, and got into the recto vaginal pouch. I accordingly endeavored between the pains to reduce this hernia, if I may so call it, for the patient told me that oftentimes before her confinement she had been obliged to press back a swelling which appeared at the vulva when straining at stool; after persevering for a short time, the whole of the tumor passed up beyond the child's head into the abdomen, and has since caused no trouble. The labor went on rapidly after the obstruction was removed, and the child was born soon after. The woman remains quite free from any swelling or tumor either in the pelvis or abdomen.

Staveley, near Chesterfield, April, 1868.—*Lancet.*

A Case of Convulsions: Flooding: rapid Recovery:—By MAXWELL REILLY, Esq., Castle Eden.

ON May 3d, at 6 P. M., I was sent for to see Mrs. T., a little woman, aged seventeen, who had been in strong labor for six hours. The os was of the size of half-a-crown, rigid and hard. As she was a primipara, and bore her pains well, nothing was done until 11 P. M., when, as there was no advance; in spite of very strong and frequent pains, she was given small doses of tartarised antimony. The posterior circle of the os dilated rapidly, but the anterior circle remained perfectly unyielding. At three A. M., the membranes, which were very thin, ruptured; and a powerful pain forced the head, tightly covered by the anterior lips, into the perineum. The next pain forcibly dilated the obstruction, and with an epileptoid scream the woman went into a most violent convulsion, in which the right side of the face and body only were affected. The fit lasted for three minutes, and was succeeded by stertor and insensibility. The three following pains which expelled the child and after-birth were each attended by a convulsion equally violent, and, as before, affecting the right side only. The pulse was one hundred and twelve, and full, and the right

pupil widely dilated. I immediately bled her to sixteen ounces, applied sinapisms to the calves of the legs and nape of the neck, and used the *douche* over the head and face. She became semi-sensible, and had no further fit, though the pulse remained at one hundred and twelve. Just an hour afterwards, very sharp hæmorrhage set in; but, warned by the "Churchill pulse," I had infusion of ergot in readiness, with which, and cold applications, the flooding was arrested after she had lost about three pints of blood, when the pulse fell to ninety, and she appeared to recognise her mother. By ten A. M., however, the pulse had regained its former hardness, and the convulsions, as violent as before, returned. She was again bled to twelve ounces, her head shaved, and a turpentine injection administered; but these measures were quite unsuccessful, as the fits continued, lasting longer, and with shorter intervals than previously. I then put her under the influence of chloroform in the middle of a convulsion with the result of immediately calming her, and she was accordingly kept anæsthised for six hours. For the first four hours it was necessary to induce full anæsthesia, as a fit threatened whenever the chloroform was diminished, but subsequently slight anæsthesia only was employed as a precautionary measure. On recovering herself, she was quite sensible, and was given tartar emetic mixture with tincture of opium. On the fourth day she sat up, and the fifth day washed and dressed the child. She suffered from œdema during pregnacy; at the third and sixth months her husband since states she had "a sort of fit like." The urine was not examined.—*British Medical Journal.*

QUARTERLY RECORD OF OPHTHALMIC AND AURAL SURGERY.

COLLATED BY W. S. MITCHELL, M. D., PROF. OF ANATOMY AND OPHTHALMIC MEDICINE AND SURGERY, NEW ORLEANS SCHOOL OF MEDICINE.

On two Methods of Removing Foreign Bodies from the External Auditory Meatus.—By A. GARDINER BROWN, M. R. C. S.

Too great importance can hardly be attached to the proper and successful removal of various foreign bodies from the external auditory meatus, and, seeing the subject touched upon in the impression of this Journal for March seventh, I wish to point out two methods of extraction which have been of frequent service to me in cases where the foreign body is either spherical or bean-shaped.

Where the substance to be removed is not too tightly impacted in the meatus, atmospheric pressure (suction) may often advantageously be had recourse to in the following way:—A few inches of French vulcanised rubber tubing, of a size to fit the meatus

easily, but not loosely, is cut at one end with a pair of sharp scissors in such a manner as to make it fit the visible surface of the foreign body somewhat neatly when pushed gently against it in the meatus. The end of the tube, before introduction, is moistened, and the direction of any inclination of the seen surface of the foreign body accurately determined, so that the cut end shall be properly applied to it. Suction, for the purpose of extraction, is now to be made use of in one of the following ways:—An assistant is to attach an ordinary ear syringe (the piston being home) to the other or free end of the tube, and make gentle suction by drawing out the piston-rod. Or the mouth may be applied to the tube: suction thus produced is extremely convenient, but not advisable if the presence of the foreign substance have set up any suppurative action or other discharge. Or let the left hand of the operator rest comfortably on the side affected of the patient's head, which must be well supported; gently, but firmly grasp the rubber tube (nicely applied as before) with the thumb and forefinger of the same hand close up to the meatus; starting from this point, run the corresponding digits of the right hand somewhat rapidly along the tube to near its end, pinching it firmly at the same time to exclude all air. The vacuum thus made will act on the substance to be removed immediately the pressure of the left fingers is discontinued.

The above method requires some practice and nice manipulation to insure success. If thought desirable, the vacuum may be produced by connecting a piece of the rubber tubing to a phial by means of a cork pierced with a short glass tube, then removing the air by spirit lamp, as in cupping, or by boiling water. To obviate the tendency which rubber tubing has to collapse under atmospheric pressure, the greater part of the length supplied may be substituted by quilled glass tubing, this latter being only tipped with the former.

Where the foreign body is spherical, it may often be successfully removed by a rolling-out plan being attempted in the following way: Select a curved suture needle with a broad but thin point, and rub this extremity on a steel surface (as the blade of a knife), so as to allow the finger, when passed along its concave surface, to feel a slight "burr" or turning over of the point. The operator is now armed with a microscopic hook of great relative power, and one which will hardly ever refuse to pass between the wall of the meatus and the obstructing body. The instrument should always be passed at that point of the circumference of the foreign body which presses least on the meatus, this being generally, I believe, either above or below when the form is spherical. The rolling-out process requires the needle to be inserted some five or six times over the object, especially when deeply seated. Care must be taken that the "burr" is well brought over the point of the needle in preparing it, or the repeated introduction will push the substance in further or as far as the traction brings it out.—*Medical Times and Gazette.*

A Case of Ulceration of the Ear, with Chronic Inflammation of the Auditory Canal, the Naso-Pharyngeal and Laryngeal Mucous Membranes, and Thickening of the Vocal Chords. A Paper read before the St. Louis Medical Society by T. F. RUMBOLD, M. D., St. Louis, Mo.

THE following case is of interest, not only on account of what was accomplished, or of what we believe might have been effected could the treatment have been persisted in, but especially as demonstrating what could and ought to have been done in the early stage of the disease, for the prevention of so great a calamity as the loss of hearing. There can be no doubt in this case that by the timely employment of proper medical aid, both hearing and speech could have been restored, and this is no less true in the case of quite a number of mutes.

The history of the case is as follows:

On July 23, 1866, Miss L. F. æt. twenty-two, consulted me for treatment. When seven years old she had had an attack of typhoid fever. On recovery it was observed that she was entirely deaf; the loudest thunder was only recognized by its effects in shaking the building. She continued, for several years, to speak as usual to those around her, being answered by signs. After it was concluded that her hearing was irreparably lost, she was sent to Fulton, in this State, and graduated at the Institution in that place, for the Education of the Deaf and Dumb. On her return home, she had to such an extent forgotten the language of ordinary conversation, that she conversed with those around her entirely "on her fingers."

In the Spring of 1863 her hearing had recovered to such an extent that she could hear a large hand-bell, when rung near her head. It was this partial recovery of hearing and her ability to pronounce a number of words, that induced her friends to seek for her, professional assistance.

On examination, the view of the tympanum of the right ear was found obstructed by a quantity of thick mucо-purulent secretion. Upon removal of this, by washing out, it was observed that the tympanum was absent, and that the mucous membrane of the middle ear was so much thickened as to completely fill up the canal. The mucо-purulent secretion was also found in the left meatus, and in the tympanum there was a perforation about one line and a half in diameter, and the mucous membrane of the middle ear, was thickened to such extent as to protrude through the orifice in the tympanum. She expressed herself as feeling immediately relieved by the removal of the secretion and cleansing of the meatus, and thought she could recognize an improvement in her hearing.

By the use of the rhinoscope the mucous membrane of the entire naso-pharyngeal cavity was found much thickened, and the orifices of both eustachian tubes closed by inspissated secretions. The pharynx was granulated; the tonsils hypertrophied, and the

larynx and vocal cords exhibited the appearance of long continued inflammation.

The treatment consisted in keeping both ears and naso-pharyngeal cavity clean, by the topical use, by means of a brush, of a solution of hypo-sulphite of soda, grs. x, to water, ℥j, and nebulization with the same solution.

The Thudichum nasal douche was frequently resorted to, but examination by the rhinal mirror, showed that *it did not remove the secretions in and around the mouths of the eustachian tubes.* By means of a curved instrument armed with a brush or sponge, most of these were removed, and the cleansing process completed by nebulization with the solution of hypo-sulphite of soda. A solution of iodine, gr. j; potass. ℈j, in glycerine, ℥j, was then nebulized upon it a sufficient time to insure the entire surface being covered. This treatment was continued once each day, until August 6. After the subsidence of the momentary pain occasioned by the nebulization, the patient expressed herself as much relieved, the operation producing the pleasing sensation of increased openness or freeness of breathing through the nostrils. The improvement was marked; the secretions were neither so abundant nor puriform; the fetor, which had been extremely offensive in both ears and nostrils, was entirely relieved.

To the foregoing treatment was added the forcing of iodized air through the eustachian tubes, by using the eustachian catheter and Dr. Buttle's apparatus; and the application of localized electricity.

On August 20 the eustachian tubes were open so that she could force air through them. She could now hear the ticking of the watch when pressed close to the ear, and the crack of the teamsters' whips as she passed along the streets. About this time she caught a severe cold, from the effects of which her general health was considerably deranged, and when she returned, about a week subsequently, her hearing was not so good, but was restored after a few treatments.

Up to September 14 she had undergone twenty-three local treatments, and the hearing distance of the watch, with the left ear, when aided by the artificial tympanum, was four inches—quite sufficient to enable her to hear loud conversation, and to have conversed with her friends, had she understood the meaning of words from their sound, and known how to speak them. This important lesson she had again to learn, and it proved a much greater and longer task than either she or her friends had anticipated. To assist her in this, her friends were required to read aloud, sentences that she had written, which she in turn was required to repeat, carefully pronouncing each work. After thus pronouncing about one hundred words her voice would fail. Instead of pearly white—their normal condition—the color of the vocal cords was about the same as that of the surrounding mucous membrane, and in the act of phonation, they would assume a yellowish or pale red color, which was replaced by a bright red,

immediately on their being at rest. This red color was increased as vocalization was prolonged, and did not again disappear for several hours. For the relief of this a solution of tannin, gr. j, to glycerine ℥j, was nebulized over the glottis, before and after each reading.

On September 28 she had received in all thirty-one local treatments. She could now hear the ticking of the watch eleven inches from the left ear, with the assistance of the artificial tympanum, and about one inch without it. The rhinitis was cured; the eustachian tube was open; the excessive secretion from the middle ear was checked, and the mucous membrane reduced to nearly or quite its normal thickness. The voice was gradually and steadily improving under daily use, and all that now was necessary was the *re-acquirement of the use of language* to enable her again to enjoy its pleasures and blessings, when most unfortunately, unavoidable circumstances necessitated her leaving the city.

During the present month, (June 1868,) she has been heard from. The "lessons" in phonation were not continued after she left the city, and there has since been no appreciable improvement in localization. The artificial tympanum could not be kept in the ear on account of the irritation it produced, but her hearing remains about the same as when she ceased treatment. She attends church, hears and enjoys the music, and can understand the minister when she sits near him.

The very satisfactory progress made by this case during the comparatively short time it was under my observation and care, fully justifies, I think, the prediction that with six months more judicious treatment, and the systematic using of the vocal cords, she could have held ordinary conversation with those around her. —*Humboldt Medical Archives.*

Iodide of Potassium in Obstruction of the Lachrymal Canal. [Bulletin de Therap., Jan. 30, 1868.]

Dr. A. de Beaufort claims, that in a number of cases of engorgement of the lachrymal sac, and of obstruction more or less complete of its duct, he has relieved or cured his patients by the use of iodide of potassium, in doses of from four to fifteen grains. Dr. Beaufort attributes the efficacy of the iodide to its local action, the iodide being largely excreted by the tears, and thus coming in direct contact with the diseased parts. He attributes a similar action and like beneficial results to the iodide in affections of the mucous membrane of the uterus In these cases, however, he finds it necessary to employ the remedy in larger doses, fifteen to thirty grains and continue its administration for a longer time.—*New York Medical Journal.*

Application of Medicinal Substances to the Mucous Membrane of the Nasal Fossæ. [Bullet. Gener. de Therap., 15 Oct., 1867.]

Dr. Rainbert details a number of cases of neuralgia of the head and face, cured or greatly relieved by snuffing into the nostrils a salt of morphia, rubbed up with sugar or marsh mallow powder. The proportion employed was from three-quarters of a grain to a grain and a half of morphia, pulverized with two drachms of white sugar. Of this one or two pinches were taken from time to time, until relief was obtained.—*New York Medical Journal.*

Structure of the Retina.

W Krause (*Gottingen Nachrichten*, March 12th, 1868) speaks of a membrana fenestrata between the inner and outer granular layers of the retina, formed of large, multipolar flat cells, which he regards as of the nature of connective tissue. It occurs in mammalia, birds, and amphibia; and in fish it has long been known. He recognizes three elements in the retina; a nervous, formed of the nerve-fibres, ganglion-cells, and the inner granular layer; a connective tissue, formed of the radial fibres, the external and internal limiting and and fenestrated membrane; and a katoptric-dioptric apparatus, consisting of the rods and cones with their ellipsoids and granules, and the choroidal pigment and tapetum. He thinks that the perception of light is limited to that which is reflected from the choroid, a conclusion which, we may state, was arrived at many years ago by John Goodsir. —*British Medical Journal.*

Anomalous Effects of Atropine.

In the current number of the "Royal London Ophthalmic Hospital Reports," Mr. George Lawson calls attention to some of the anomalous effects of atropine upon the eye. In several cases he has found the sulphate of atropia, so useful in general as a sedative, act as a direct irritant, and in two which he relates very troublesome symptoms resulted. In one there was acute conjunctivitis, lasting several days; in the other, erysipelas of the lids, spreading to the face and head, was excited on two occasions, a period of six months intervening. The irritative effects occasionally witnessed from the use of a solution of sulphate of atropia have been generally ascribed to the presence of some free acid in the solution, but Mr. Lawson doubts the truth of this explanation.

He believes that when atropine acts thus as an irritant, or produces peculiar and distressing symptoms, it is due to some

idiosyncrasy on the part of the patient, which renders him intolerant of the alkaloid or of its salts, and, in some cases, of any preparation whatever of belladonna.—*Medical Record.*

A New Ear Forceps.

M. LABAT, of Bordeaux, (*American Medical Journal*) has invented an ingenious little instrument for the extraction of foreign bodies from the ear. It consists of two curette blades which are to be introduced separately, like the obstetric forceps, and the stems then passed through a tube, which by being pressed forward fixes the blades tightly on the foreign body. A handle is then attached, which keeps the instrument from slipping, and at the same time furnished the necessary means of traction.—*Pacific Medical and Surgical Journal.*

Section of the Optic Nerve and Ciliary Nerves, instead of Enucleation, for Sympathetic Ophthalmia. By B. JOY JEFFRIES, M. D., Ophthalmic Surgeon to the Mass. Charitable Eye and Ear Infirmary.

DR. RONDEAU, in a pamphlet published in 1866, on sympathetic ophthalmia, says, in concluding:—"In studying the pathology of the secondary lesions which occur in an eye subsequent to injury of its fellow, in considering the intractable nature of the affection, its insidious and intermittent march, we notice the striking analogy between neuralgias and so-called sympathetic ophthalmia. No affection is so rebellious to medical treatment, and when in facial neuralgia all our therapeutic remedies are exhausted, we often have recourse with success to section of the nerve, and if this does not suffice, to excision of a piece of the nervous trunk. Not yet having clinical facts to rely on, I can but express the opinion that the same treatment is applicable to sympathetic ophthalmia. It is often difficult to make the patient comprehend, in an affection so slight in appearance, the danger of his situation and the necessity of removing the eye. He hesitates, and, waiting till the eye becomes enfeebled to the last degree, re-appears to confirm the surgeon's prognosis. When, finally, he decides upon an operation, the changes in the globe have often so far advanced as to insure but a limited advantage from enucleation of the injured eye, if he is not already condemned to incurable blindness. The first indication in this disease is to act as promptly as possible, in order to prevent the changes of secretion and structure consecutive upon reflex troubles of the circulation."

"Break the nervous chain necessary to the accomplishment of the changes which constitute reflex action; divide the sensitive nerve, or destroy the ganglionic centre, or divide the recurrent

nerves (electro-motor), any one of these lesions, the breaking of the chain at a single point, is sufficient, and all re-action, all sympathy between the organs ceases."

Dr. Rondeau then goes on to say:—"Nothing is easier than this operation, which I have several times practised in the amphitheatre. It consists in making a small opening through the conjunctiva at the upper and inner part, and introducing a slightly curved tenotomy knife, to be kept close to the globe. We divide, at the same cut, the ciliary nerves, the optic nerve and the central artery. The advantages and disadvantages of this operation are these: It is very simple, and as the patient has much less dread of it than enucleation of the globe, he is less reluctant to submit to it earlier. It serves the same purpose as enucleation in breaking the continuity of nervous tissue. Section of the optic nerve, it is true, destroys vision in the eye; but as in the majority of cases vision, if not lost, is greatly reduced, it is better at once to sacrifice the eye becoming useless, and which may endanger the other.

"In animals, this section of the nerve does not cause hæmorrhage to be dreaded; we only cut vessels of small calibre, the ciliary arteries and the central artery of the retina, the hæmorrhage ceases quickly, so that the blood does not exercise any injurious pressure on the nerves we have cut.

"If this section does not avert the progress of the reflex trouble in the sound eye, we must at once enucleate the affected one. Experience will decide on the value of this operation."

In the Memoirs of the Vienna Academy, 1864, Dr. B. Rosow gives two ophthalmoscopic pictures of the eye of a rabbit, before and after section of the optic nerve. From his experiments carried out in the Physiological Institute of the Vienna University, he draws the following deductions: 1st. "Section of the optic nerve (in rabbits) when unaccompanied with accidents (disturbance of the retinal circulation, severe inflammatory reaction), does not cause, as formerly supposed, such rapid fatty degeneration of the fibrous layer of the retina. In one case, he found the largest part of the fibres perfect after one hundred and forty-two days. This is more than time enough for fatty degeneration to take place in other nerves separated from the central system. In another case, after one hundred and seventy-eight days, well-preserved nerve-fibres were found, although few in number. 2d. The causes which destroy the fibrous layer of the retina have no injurious effect on the other retinal elements; from which we may conclude that the vitality of these elements is entirely independent of that of the fibrous layer."

We mention these results of Dr. Rosow because they may throw some light on the question of the usefulness of section of the optic nerve in man. The Journal has lately noticed this as a new operation spoken of by Prof. Graefe as a remedy for subjective luminous sensations, and as he has changed his views as regards its applicability in sympathetic ophthalmia, we quote

the following from the report of the Ophthalmic Congress at Paris last year:—"I have at times recommended the substitution of this operation for enucleation to counteract sympathetic ophthalmia, but experience and more mature judgment of the subject have soon shown its inapplicability. It is undoubtedly through the *ciliary* nerves that sympathetic ophthalmia is communicated, and section of the optic cannot therefore serve to cure it.

But there is another order of symptoms besides pain, and which in the class of special sensations is also dependent upon the optic nerve. I mean the subjective luminous sensations remaining after the loss of the eye, and accompanying certain forms of blindness; for instance, in detachment of the retina after irido-choroiditis, and when there is calcareous deposit within the globe, we often have subjective sensations very distressing to the patient. They have spectral coruscations (photopsia) tormenting them day and night, and we even find these followed by cerebral hallucinations, due to irritation of the brain from communication with the optic nerve.

Section of the optic nerve seems indicated under other circumstances also than these photopsic phenomena observed with the blind. I mean where there are intraocular tumors. It is well known that the trunk of the optic nerve is particularly liable to propagate degeneration (sarcomatous or carcinomatous) to the parts outside the eye. Microscopic examination of the cut surface of the nerve after enucleation often shows us that it is already here affected, although the interior of the globe may be but partially filled with the tumor. In such a case the insufficiency of the extirpation will be apparent, and we shall soon have a return of the development of the tumor from the orbital part of the diseased nerve. If we are prompt enough in ascertaining that the cut surface of the nerve is diseased, the free end of the nerve must be cut off immediately after enucleation. This, however, is very difficult to do, and we cannot reach the remaining portion of the nerve in the orbit without extending our dissection in a dangerous manner. It is, therefore, more prudent, in cases of intra-ocular glioma, sarcoma and carcinoma, to first divide the optic nerve beneath the conjunctiva, and this as far back as possible, then proceed to enucleate. We shall thus have some third of an inch of the nerve with the globe, which we shall be glad of having effected if the cut surface proves healthy, whilst nearer the globe the nerve is found diseased.

Method of Operating.—We penetrate the orbit, or rather the cellulo-fatty tissue, by puncturing the cul-de-sac of the conjunctiva at its outer side, whilst the globe is drawn forcibly forward. The instrument used is a very strong tenotomy knife, moderately curved, which must follow the external wall of the orbit till the point is far enough advanced to cover the optic nerve. The latter being stretched by the position given to the globe, is readily presented to the concave cutting edge of the knife, and

divided according to the rules for subcutaneous section. The distance of the section from the globe may be greater or less, as we choose. It is more readily made about one fourth of an inch behind the sclerotic, but can be carried within a few lines of the optic foramen.

I performed this operation with success in a case where blindness had lasted fourteen years. I observed, at the time, the difference between the character of the *retinal* hallucinations, as we notice them, and the *cerebral* hallucinations properly so called. In the first, simple figures are seen, geometric, so to speak; in the latter appear all the products of the imagination and the memory."

It seems pretty definitely settled that sympathetic irritation is conveyed by the *ciliary* nerves and not by the optic; section of the latter, therefore, would be confined to such cases as Graefe speaks of. The knife sent me by Lüer, of Paris, for this purpose, has a shaft about two inches long, and the blade, but slightly curved, five sixths of an inch long. Its use, of course, necessitates perfect familiarity with the anatomy of the orbit and the relations of the soft to the hard parts.

Prof. Graefe, having convinced himself of the action of the ciliary nerves in conveying sympathetic irritation, proposed, in 1866, in the *Archiv fur Ophthalmologie*, the section of these nerves locally, where pain was produced by pressure on the sclerotic over them. The operation was, however, practised for the first time in May, 1866, by Dr. Ed. Meyer, who translated into French Graefe's "Clinical Ophthalmology." In the September of the *Annales d'Oculistique*, Dr. Meyer reports three cases operated on, the method of doing which latter I translate from this piece. "Having determined on the place, painful to the touch, where section of the ciliary nerves is to be performed, we lift up and cut a fold of the conjunctiva near the edge of the cornea, just as in the operation for strabismus. Then, with blunt-pointed scissors, we separate, to the extent determined on in the plan of our operation, the cellular tissue uniting the conjunctiva and sclerotic. The eye is now fixed by a strabismus hook passed under the nearest rectus muscle; we thereby also determine the place of insertion of the tendon of this muscle. Holding the hook in the left hand, we puncture with Graefe's narrow knife the sclerotic in the ciliary region, obliquely to its surface, avoiding the crystalline lens. The counter-puncture is made so that when the cut is finished we shall have a linear wound parallel to the border of the cornea, in which the vitreous immediately presents. We then carefully remove the hook, and turn back the conjunctiva towards the cornea. Suture of the conjunctiva has not seemed to us of any real advantage; there is, however, no difficulty in applying it. The edges of the sclerotic wound remain several days ununited, and in one case we were obliged to cut off the vitreous on the third day, and apply the compressive bandage more than a week. There is very moderate reaction after the

operation, and only rest needed, unless pain or sleeplessness call for subcutaneous injection of morphine on the temple, and the compressive bandage. Of three eyes operated on in this manner, one which had already commenced to atrophy before the operation continued to do so completely afterwards; the other two retained their normal shape."

Time must prove whether this section of some of the ciliary nerves, namely, those shown to be implicated by pain upon pressure over them, will not supersede enucleation of the globe otherwise indicated to prevent insidious sympathetic ophthalmia. Being forced to wear an artificial eye entails considerable expense upon the patient, and I have too often seen constant trouble from the best made and most perfect fitting one. I therefore look with much interest for the results of the operation as now practised at home and abroad. When, however, this is unsuccessful in preventing or subduing sympathetic ophthalmia, we have still left the certain remedy of enucleation of the globe, as I have fully shown in a late paper before the Massachusetts Medical Society. —*Boston Medical and Surgical Journal.*

ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

[We have received a pamphlet extracted from the St. Louis Medical and Surgical Journal, (Nos. 3 and 4, 1868), setting forth the points of discussion between Dr. Wm. B. Carpenter, of London, and Prof. John H. Watters, of St. Louis, in respect to the authorship of some of the most recent "doctrines of life."

The whole pamphlet is well worthy of the reader's earnest attention, but we cannot spare the room for its republication. We are only able to supply our readers with a few extracts from Prof. Watters' answer to Dr. Carpenter's letter, in order to develop the points in discussion and must refer them to the widely diffused works of the latter for information as to the justice of the claims and charges presented by the former.

We consider it also due both to Prof. Watters and Prof. Le Conte, of Columbia, S. C., to reprint from the September No. of the St. Louis Medical and Surgical Journal a very graceful letter from Prof. Le Conte* acknowledging the priority of Dr. Watters

*Prof. Le Conte's letter, page 479, St. Louis Medical and Surgical Journal.

publication on "Organic, or Life-Force," in which those doctrines were developed which Dr. Carpenter credits to Prof. Le Conte.

We have written to Prof. Watters requesting him to send a sufficient number of his pamphlets to enable us to enclose a copy to each of our Foreign Exchanges. Should he comply with our request our cotemporaries may present their readers with such notices or extracts as may seem to them appropriate to the interest of the subject:]

Letter from Dr. Carpenter, of London.

UNIVERSITY OF LONDON,
BURLINGTON HOUSE, W.,
March 16th, 1868.

To the Editors of the St. Louis Medical and Surgical Journal:

GENTLEMEN—I regret to learn from some passages in a lecture by Dr. Watters "On the Correlation and Conservation of Forces," contained in your Journal for January (of which a copy, furnished I presume by Dr. W. has just reached me), that he considers me to have unfairly neglected his claims as an originator of the doctrine that the so-called vital forces are correlated to the physical.

From the manner in which Dr. Watters couples my name with that of Mr. Hinton, and from his reference to my "recent works" alone, he would seem ignorant of the fact that in June, 1850, my memoir on the Correlation of the Vital and Physical Forces,—in which that doctrine was not merely advanced speculatively, but was fully and elaborately discussed,—was read before the Royal Society, and was published in the "Philosophical Transactions" for that year; as well as of the fact that the same doctrine was explicitly set forth in the third edition of my "General and Comparative Physiology," published in 1851, of which the earlier sheets (containing that exposition) had been in print some months before my paper was read at the Royal Society.

It is obvious, therefore, that in these writings I can have in no degree profited by Dr. Watters' thesis, which was not published until some months after the appearance of my memoir in the Philosophical Transactions. And whatever I have since written on the subject has been but a reproduction, in my own language, of my original ideas, with such modifications as the advance of science has suggested to me,—as any one may see who will take the trouble to make the comparison.

I have long since ceased to care about credit for *priority* in any doctrine I have promulgated; but I do care for my reputation for *truth* and *honesty;* and before calling this in question, and imputing it to me that I have appropriated either his ideas or his language, Dr. Watters should have informed himself better as to the facts of the case.

That I am not wanting in readiness to acknowledge real obligations of this kind, will appear (I venture to think) from the recognition I have given of the advance which I consider to have been made in the subject by Prof. Le Conte ;* and from the fact that I was the first to make known in this country the remarkable anticipation of my own views by Dr. Meyer, of Heilbronn.

Hoping that you will do me the justice of inserting this communication in the next number of your Journal, I remain, Gentleman, etc.,

WILLIAM B. CARPENTER,
Vice-President of the Royal Society.

[From Dr. Watters' Reply.]

[I now propose to establish that my animadversions in regard to Dr. Carpenter, to which he objects in his letter, were not made hastily or "in ignorance of the facts;" but that they are justified in every particular by the records. The argument will contain just four points, which I will state briefly:

First. From my thesis, published in 1851, and from a series of articles subsequently published in the *St. Louis Medical and Surgical Journal*, I shall reproduce sufficient to show my annunciation and elucidation of the position that life and decay are reciprocal; that the form or organization determines the *direction* of those peculiar actions called vital, while those same actions are reciprocal with a "*downward*" process, as in machines of art.

Second. From the memoir on the "Mutual Relations of the Vital and Physical Forces," published in the "Philosophical Transactions" for 1850, and from editions of his Physiological works, subsequently published up to 1864, I shall quote sufficient to show that Dr. Carpenter, during that period, held that the "vital forces" are "correlative" with the physical, and with each other, and that in the *elaborate discussion* of this doctrine, referred to by him, he maintained that these "vital forces" thus "metamorphosed" from "heat and light" by the organism, as the "*material substratum*," *are the cause both of the motions and of*

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* LETTER FROM PROF. LE CONTE ON DR. WATTER'S DOCTRINES OF LIFE.

COLUMBIA, So. Ca. August 31, 1868.

To the Editors of the St. Louis Medical and Surgical Journal: Gentlemen—I received a few days ago a copy of an article by Dr. Watters, published in your Journal, entitled "Doctrines of Life," in which he gives a history of the introduction into physiological science of the idea that *life-force is generated by decay*, and claims for himself priority in the origination of the idea. A careful perusal of his paper has convinced me that *his claim is just.*

Until the reception of the copy of the paper sent me, I was entirely unaware of the existence either of his thesis or of his subsequent publications in your Journal. I was previously aware, however, that I had been anticipated in the *general idea* by Prof. Joseph Henry. I can not, and do not, therefore, claim any priority in the origination of this important idea. If I deserve any credit in connection with this subject, it is for having first clearly apprehended the idea so as to apply it in a definite manner in the explanation of many phenomena of vegetable and animal life, and for having shown a real conservation of force in these phenomena—in a word, for having taken the idea out of the realm of probable speculation, and brought it within the realm of true inductive science.

Very respectfully yours,
JOSEPH LE CONTE,
Prof. Chem. and Geol., So. Ca. Univ.

the specialty of the vital motions. Thus making his vital forces abstract unities, yet differing from each other and susceptible of being metamorphosed!

Third. From his writings in 1864 I will quote sufficient to show that Dr. Carpenter, in these "recent works" announciates the doctrine that the "germ" or "organism" gives the "*directive agency*," while "decay" or destructive metamorphosis gives the "*motor*" to the vital motions.

Fourth. I shall show that this late position of Dr. Carpenter, is an abandonment of his "correlation theory," as developed in 1850 and for the next fourteen years; and that it is *in many respects* "identical" with the theory which I published in 1851 and subsequently.

If I am not at fault in my confident belief that the records will support this argument in *every point*, then it will appear that Dr. Carpenter is most unfortunately at fault in his letter, in every particular. He is at fault in supposing that I make "claims as an originator of the doctrine that the so-called vital forces are correlated to the physical." I have never alluded to that doctrine *as developed into a theory by its advocates*, except in connection with criticisms which I consider fatal to it as a theory. The paragraph in which he is alluded to in my lecture is in the midst of such a criticism. He is at fault in his objections to my reference to his "recent works alone;" for in these alone does he adopt my views, and as these views are an abandonment of his correlation theory, he is equally at fault in referring them back to his memoir of 1850, "with such *modifications* as the advance of science has suggested" to him. He is no less at fault in assuming that I called in question his "reputation for truth and honesty." The question was merely in regard to *justice* to myself; and I did not go behind the facts to impugn his motives, with which I had nothing to do, and which had nothing to do with that question. As there was another horn to the dilemma in which he had unfortunately allowed himself to be placed, no system of logic would justify his selecting one to answer, and at the same time leaving the other untouched. If he had treated the other alternative in a way which I believe he might truly have done, no doubt this communication would have been uncalled for, and he would not have felt the necessity of sustaining his "reputation for truth and honesty" by argument; but as *he* elected it rather to impute my remarks to an "ignorance of the facts in the case," nothing is left me but to present to the world the facts, that it may judge between us.]

[FIRST POINT OF THE GENERAL ARGUMENT:—FROM MY OWN RECORD.

(A) From "An Essay on Organic or Life Force; written for the Degree of Doctor of Medicine in the University of Pennsylvania. By J. H. WATTERS, A. B." Philadelphia: Lippincott, Grambo & Co. 1851. 8vo. pp. 36.]

[*Life, or the Actions of an Organism, are produced by Forces which are evolved in the decomposition or decay of that Organism.* By the word "Organism" is meant all that normally enters into its unity or totality. When we say a cell is an organism, we mean not only the special forms which may be determined by the microscope, but, no less, the contained fluids, granules, etc.,—the totality; so the compound organism, man, includes not only the "solid forms," but the contained fluids, nutritive juices, etc.,—that is, the whole negative unity.] * * * *

[Now, as the natural tendency of the organism is to decay, and, as there could not be renewal previous to decay, it is most probable that decay affords the necessary conditions to renewal; that is, the very act which creates a necessity for renewal also evolves the forces necessary for its accomplishment.

The above proposition seems somewhat plausible when we consider that the same conditions which are necessary to decomposition and decay are conditions necessary to life. Under the very same circumstances we have life manifested in one organic compound, and nothing but destruction in another; while, without these circumstances, there is neither Life nor Destruction in either. Can this be because air, heat, and moisture are conscious existences, and have not the same tendency in the two cases? Can it be that they have in the one case a *deadly*, while in the other a *vitalizing*, influence? It would seem not; although vital actions do result from the influence of these conditions in the one case, yet it would appear that this can only be effected through decay; for their tendency to *destroy* and *disorganize* must be the only way through which they exert their influence throughout the organic world. Take a seed for instance; if it be preserved from the conditions of decay it will remain unchanged for any length of time; but so soon as the influence of these conditions operates, Life is manifested—an act of *organization*, which is directly contrary to the admitted natural influence of these conditions. It is not an object here to define the forces which produce vital action; admit, if you please, the existence of an independent "vital principle;" or, if you would rather, admit that "matter capable of assimilation was originally endowed with vital properties;" or let there be any hypothesis which may enter into the heart of man to conjecture, the argument is the same; that the forces which produce vital actions, be they what they may, are developed by means of the oxydation or decay of the organism, just as electricity, heat, and light are evolved by the oxydation of zinc. As the external conditions of Life are the same as those of Decay, the different results must proceed from difference in the substance acted upon; and as the tendency of these conditions is to produce disorganization rather than organization in *all* organic compounds, and as there is Decay wherever there is Life, Decay must be a necessary antecedent to Life. But an *organized structure* is so arranged by an Infinite Wisdom, that in it the very act of incipient destruction liberates a recuperative

life force, which, if there be a supply of nutriment, *renews* and builds up the structure, every particle of which is, in its turn, destined to *decay*, and thus acts its part to keep up the actions of the individual.

Further evidence in favor of this proposition, derived from the fact that it obviates some objections which hold against other theories. While Dr. Carpenter abandons the venerable phrase, "the vital principle," as a support to the mind in explaining the phenomena of life, he does not seem to have afforded the shadow of a substitute in his theory that matter was originally endowed with *vital properties* which are developed by the act of organization. But more, there are marked objections to this theory, which not only do not hold against, but strongly corroborate, the one here advocated. The first to be noticed is the constant tendency of organized structures to disorganization. Now, for the "act of organization" there must be a force exerted more than sufficient to counteract this tendency in the part that is in the act of organization. Can the "act of organization" be at the same time the *effect* and the *cause* of this force? But it is said that decay takes place the same in the living as in the dead body, but in the former the effects are "counteracted" by constant renewal. This is begging the question, for, if decay were not in some measure obviated by a counter force, there could be no renewal. From the previous arguments it appears possible that this counter force may be evolved by decay itself; not decay in the part that is in the act of organization, which would be absurd; but in a single cell, for instance, the decay of the *exterior* liberates forces, which carry *the interior* to a higher state of organization, as in organic chemistry the *oxydation* of one metal liberates a force which produces the *deoxydation* of another. The fact that life force is evolved by decay accounts for the equilibrium between decay and renewed preservation in health. If any cause should tend to diminish decay, life force would diminish accordingly, and the structure would be less preserved against the *ordinary* influences, while if any cause increase decay, life force is increasd, and the structure is more preserved in proportion to the greater cause of decay. We have here the law by which the system tends to preserve health; but more on this point hereafter. * * * * * * * * * *]

[When the above considerations are observed, it seems that the condition of a seed, before germination, loses its peculiar mystery, and its explanation becomes comparatively easy. The phrase—"dormant vitality"—is the received explanation at the present time; but I have attempted to show that there can be no such thing as dormant vitality, and, moreover, if there could, that the external agents could not *stimulate* it into action. It is contended that if there be forces in the seed, and there must be, these forces must be in action, though they may not produce action; and that the only way air, heat, and moisture, or any other agents, can produce action in the seed, is either by their addi-

tional force or by changing the direction of the existing forces, and thus disturbing the balance. The facts in the case are simply these: A seed may be preserved any length of time without undergoing the slightest change; but, when certain external agents are applied, life becomes manifest. The object is to interpret these phenomena, just as we would those which present themselves in any artificial experiment. This experiment, performed for us by nature, is brought forward in support of the proposition—*that life action is produced by forces which are evolved*, or take a new direction, *in the decomposition of the organism.* The seed does not possess vitality, in any sense of the word, before germination; it does not even possess *life force*, either dormant or in action, for life is only produced when it is under the influence of certain external agents, and, therefore, life force is the resultant of forces as directed by the seed under the influence of these external agents. Therefore, we have life force only under the co-operation of *all* the conditions of life; but its *components* have existed and been in operation since the foundation of the world or the creation of matter. Now these *components* are not mysterious agents which never manifest themselves except in organized structures, but the very same forces which produce the *ordinary* chemical actions, when directed by an organism under the influence of these external agents, become the components of life force. But organization *must be* produced by means of disorganization, because the natural tendency of an organized structure, under the influence of the external conditions of life, is to disorganization; and, consequently, organization can not be *directly* produced by the ordinary forces. But, as no means or ingenuity whatever could make gravitation *directly* elevate a weight, yet, as has been seen in the case of the inclined plane, it may be made to do so *indirectly*, by means of depressing a weight, which is its natural tendency; so no fortuitous circumstances or event could ever make the ordinary forces of matter *directly* produce organization, yet they may produce organization *indirectly* by means of disorganization, which is their natural tendency. From the foregoing considerations, therefore, it is concluded that life *originates* when the seed is placed under the proper conditions, through decay or oxydation, which these conditions naturally induce. * * * * * * * * *]

[What is the *modus operandi* of heat, oxygen, and moisture, in giving origin to vital phenomena in a seed? This is the plain question. If the propositions advocated in the previous article be true, we will have but little difficulty in answering this question. If the organization is all that is peculiar to the seed, these conditions can not *excite* the "vital principle" into action." Neither can these conditions excite any power, as no physical force can be stimulated. And it has been shown, I think, that the heat can not be metamorphosed into a "peculiar vital force," as maintained by Dr. Carpenter. Now, you say, if there be no peculiar power in the seed, excited into action by these conditions, and if the heat

can not be transformed into such a peculiar power, and if the seed be really nothing more than a special arrangement of physical agents, why do not the heat, oxygen, and moisture occasion the oxydation of this compound, and reduce it to inorganic matter as in other organic compounds? The simple answer to this question is, they *do* occasion the oxydation of the germ and reduce it to inorganic matter, just as they affect any other organic compound. But you may smile and say this is absurd, for do we not see that they produce actions directly opposite—life, nutrition, and growth? Life, nutrition, and growth are not the primary actions produced by these conditions, but secondary and reciprocal with a primary action which results as a natural and necessary consequence of the influence of the external conditions of life upon organic matter. True, there is a vast difference between the actions of an organism and those of unorganized organic matter when under the influence of the external conditions of life, but this difference is not in the primary action but in those secondary and consequent actions, which are peculiar to organized matter. There is a vast difference between the actions of a steam engine and the elevation of the lid of a common tea kettle, but this difference is not in the primary action of steam, but in the secondary and consequent actions, the peculiarity of which is due to speciality of machinery. Now we have maintained by a process of reasoning entirely independent of the present proposition, that there is nothing whatever in the living organism to which the vital phenomena can be ascribed except the special arrangement of the physical agents in that organism. It has also been maintained that absolute or efficient power does not exist as a property, quality, or attribute of any physical agent whatever. If this be true, and it must be true, we must refer physical action to an equivalent antecedent as the direct cause, and the direction of action to mechanism, and not to assumed efficient forces, such as affinity, attraction, vital force, etc. Oxydation is the "natural tendency" in all organic matter when under the influence of the external conditions of life; the organism is a special arrangement of physical agents by which action, thus originating in the machinery, is so directed as to constitute vital phenomena. Action may *seem* to begin here and end there, but this is all an illusion; and under this illusion, we have assumed certain absolute, efficient physical forces as the direct cause, which we fancy give origin to these actions immediately by an internal effort or energy. But action, or a disequilibrium of the physical agents, exists as a fact, and, if these physical agents be inert, must continue in its endless chain of reactions through the vast machinery of the universe, till it shall reverberate back to the Absolute and Eternal, in whom is all power and might. The universal machinery of nature is in action; change and modification in direction is the law, but this change and this modification is due to the machinery. There is no reversal of the laws of matter in a living organism. But if the speciality of the vital actions be

due to the physical arrangement in the organism, these actions must be reciprocal with somewhat anterior. If I can show reasons to believe that the vital actions are reciprocal with oxydation through the organic machinery, I obviate the necessity of assuming a peculiar force, to reverse the natural laws of matter and to counteract the "destructive tendency to decay." I start with oxydation as one link in the chain of sequences in the machinery of the universe, and not as an ultimate power; as the *first* action in the organism, but not as the direct result of an effort of absolute force; as the *antecedent* to those actions which are peculiar to the organic machinery, and not as the *destructive* tendency of matter resulting from *inherent* affinities.]

[In conclusion, I will venture behind the records so far as to say that the respect I have ever borne Dr. Carpenter would preclude the possibility that I should intend in my remarks any thing more than seemed called for by the principle of self-protection. I confess that I felt somewhat chagrined to find that, notwithstanding I had been careful to send him my papers, thirteen years afterwards he should promulgate the same views, for the first time, with the authority of his name, without any mention of my previous publications. In so far as I may be forced by circumstances that arise, to protect myself, I shall not shrink from any responsibility. Any inuendoes referring to the *propriety* of my actions in this matter, will be received as altogether gratuitous. It is true, no doubt (for he goes not a little out of his way to so affirm, in his very remarkable letter), that Dr. Carpenter has long since ceased to care about credit for *priority* in any doctrine he has promulgated. Not so with me; whatever my intellectual offspring might be, if I were to fail to claim its paternity, I would consider myself as lacking the first characteristic of manhood.]

On the Anatomy and Physiology of the Coronary Arteries of the Heart: By ALEXANDER MACALISTER, L. R. C. S., L. K. Q. P., Demonstrator of Anatomy, Royal College of Surgeons, Ireland; Surgeon to the Adelaide Hospital; Hon. Professor fo Anatomy to the Royal Dublin Society.

THE vascular supply of the heart substance presents many features of interest which have not been entirely overlooked by modern physiologists, but whilst recently engaged in examining the coronary vessels, and their actions, I have been struck with several points in connection with cardiac physiology, which have not, perhaps, received the attention which they deserve. The descriptive details of the position, course and relations of the two coronary arteries are so fully given in almost every anatomical treatise, that I will forbear alluding to more than two points in this respect. In the first place, it is, perhaps not sufficiently recognized that the vascular supply of the two sides of the heart

is to a considerable extent independent. Professor Hyrtl, of Vienna, was the first to demonstrate that one coronary artery cannot be injected from the other, as no trunks larger than capillaries unite their terminal branches in the ventricular substance. At the same time the experiments of Schiff show directly that the vascular supply of each side of the heart is derived solely from a single coronary vessel, and that the existence of aberrant branches from the right artery to the left ventricle, and *vice versa*, is exceptional. The second important point in anatomical detail refers to the point of origin of these vessels. Among the older anatomists, as Boerhaave, Carpus (1530) Riolan, Verheyen, Forsent, we find that the coronary arteries are described as arising behind the semilunar valves, that these curtains, when raised, would be so placed as to block up their mouth, and in more recent time, Vanst, Brücke, and a few others, have advocated the same opinion; the elder authors based their belief on the appearance of the parts as seen on dissection after death, but Vaust has arrived at the same conclusion from experimental researches, as he found that by injecting the heart through the pulmonary vessels, the coronary arteries were not filled; in the hands of Hyrtl, however, the same experiment was attended with a contrary result, for from the pulmonary veins he was able to fill the coronary arteries.

Sömmering, Blancard, Rolfincius, and Morgagni, among old anatomists, and Cloquet, Harrison, and Power, among moderns, describe them as being placed above the level of the valves, so far as to be beyond the range of contact with them. Quain describes the mouths of these vessels as on a level with the top of the valves, within range of contact, but not of occlusion. The condition which I have found most commonly is the last, but I have seen the second arrangement, and in many cases I have noticed the left as being within contact-range of the valve, while the right was above its level. I recollect once, when a student, seeing an aorta in which the valves were perfectly capable of occluding the arteries, but this last condition I regard as one of great rarity. Morgagni, indeed, mentions that he is doubtful on the true typical position of the vessels, in some subjects the vessels being above, and in others below the valve-level; and Petriolus, premising that in carnivores the coronaries arise above the valves, and in herbivores behind them, draws the conclusion that the courage of the former and the timidity of the latter arise from the fact of the greater or less degree of nutrition of the heart. Hence he argues that the difference between timid and brave men depends on the relation of the orifices of the coronary vessels to the seminnlar valves, a brave man having his coronary arteries above the valves, and a timid man behind them! These arteries are rarely the subjects of a variety. Camper records having once seen a single coronary artery. Similar cases are recorded by Boehdalek, Junior, of Prague, Thebesius, and Columbus. Meckel describes an example in which four trunks arose

from the aorta, and Winslow has recorded the existence of three of these vessels. Among animals, the number and arrangement of the coronary vessels is subject to little variety. The elephant, according to Camper, possesses only one artery; the cow, pig, goat, hare, rabbit, dog and cat—like man—have two of these vessels; and this seems the usual number in vertebrates. In one instance Morgagni found three in a dog.

Prof. Hyrtl, of Vienna, has described the hearts of urodelous batrachians, and some families of reptiles, as destitute of true nutrient arteries, with the exception of a superficial stratum of capillaries on the outer side, as in these the coronary artery is principally distributed to the bulbus aortæ, and mentions that these hearts are mainly nourished by direct imbibition from the ventricular cavities. The same disposition occurs in the hearts of many osseous fishes, and in connection with these Professor Hyrtl remarks that the hearts of these animals are remarkable as being nourished by venous blood. It was believed by some former anatomists that the human heart received a supply of blood from the ventricular cavities, communicating with the coronary arteries, but injection demonstrates the fallacy of this opinion.

Closely depending on the point of origin of these vessels is the period during which the blood enters them. Many of the older anatomists, who believed that the vessels were occluded by the valves, thought that blood could not enter into these arteries until the ventricular systole was concluded, and the semi-lunar valves were closed. According to this idea, the coronary arteries would be the last supplied with blood. Morgagni was among the first to show that if the coronary arteries were placed above the level of the valves, there could be no mechanical obstacle to the entrance of the blood into the vessels at the period of ventricular systole, and hence most of the modern physiologists teach that the heart is nourished at the time of contraction, and thus, is supplied sooner than any other organ. This theory is supported by the observations of Haller, who saw the blood coming *per saltum* from the cut extremity of a coronary artery during ventricular systole, and Endemann observed the mercury in a monameter to be elevated during the same period when the instrument was introduced into one of the arteries in an artificially stimulated heart. Mierswa, in supporting the same idea shows by experiment that the semi-lunar valves are never applied against the wall of the sinus of Valsalva during systole, and consequently, they can never close the coronary arteries. Similar experiments and observations have been made by Rudinger and Joseph confirming the same statement. But, while accepting this theory, that these vessels are first supplied, we must likewise consider that an important mechanical obstacle exists to prevent the blood from traversing the heart wall during ventricular systole. During that action the contracted muscular fibres compress the blood-vessels, and so preclude the perfect nutrition of the tissue of the organ, for we know that during the prolonged contraction of any

ordinary muscle the superficial veins always become distended and the arterial currents are interrupted. If, then, the heart depended for its vascular supply upon the quantity of blood entering it during systole, it would be imperfectly nourished, but as the ventricle relaxes, a reflux takes place with force sufficient to shut down the semi-lunar valves, and the mouths of the coronary vessels being open, receive the blood; thus a second stream enters these arteries, impelled by the force of gravity and the elasticity of the aorta, while the muscular fibres relaxing relieve the smaller blood-vessels of their constriction, causing a certain amount of *vis a fronte* or suction force. We thus have reason to believe that the vessels in the heart-wall receive two blood currents for each single stream in any other artery, one an effluent, and the other a refluent supply. This idea was first put forward by Professor Hyrtl, and is one supported by many facts both of anatomy and physiology, and in connection with it, we have to consider what part in the mechanism of nutrition each current plays. The systolic effluent current I regard as the least efficient, but as it is sent with great force, it will probably carry a quantity of blood into the auricular wall, into the coats of the origin of the aorta and of the pulmonary artery. The diastolic or refluent current, although more copious, is less forcible, but traverses probably the ventricular vessels, and nourishes the tissue of this part of the organ.

The object subserved by this double current is the perfect nourishment of the heart, as it requires a larger supply of blood than any other muscle in the body. This we might expect on *a priori* grounds, for we have reason to believe the amount of chemical action taking place in a muscle to be in the direct ratio of the amount of exertion. It is also palpable that the amount of blood required for the nourishment of a muscle, is in direct proportion to the amount of material disorganized, *i. e.*, to the amount of chemical action in progress, and as the heart performs more work than any other muscle of its size, we believe that it requires a proportionately large supply of blood. Professor Haughton has calculated the exertion undergone by the heart in the course of twenty-four hours to be equal to the raising of 124·6 tons to the height of one foot, and as the laboring force of man averages, according to Haughton and Donders, equal to the lifting of 340 tons to the height of one foot a day, it will be seen that the heart does in one day more than one-third as much as all the other muscles in the body—hence any interference with the nutrition of the organ produces an immediate effect upon cardiac action, as proved by the experiments of Erichsen and Schiff. Von Bezold more recently found that when the coronary arteries of rabbits were temporarily occluded, the pneumogastric and cervical sympathetics having been already divided, the heart's action became rapid and irregular after fifteen seconds, and finally, after from one minute to one minute and a-half, the ventricles ceased to act,

the auricles continuing a weak, intermitting action for a greater length of time.

The capillaries of the heart are remarkable for their number, and the veins are nearer the surface and more muscular than the generality of such vessels elsewhere—*Medical Press and Circular.*

Lusus Naturæ: By W. L. MOORES, M. D., Cyruston, Tennessee.

I have just been permitted to examine a female infant having four almost perfect legs. It is certainly one of the strangest and most interesting cases of deformity I have ever seen or read of.

Owing to the great quantity of adipose tissue beneath the integument, I was unable by manipulation, to entirely satisfy myself relative to the articulations, and will merely give concisely my impressions of this wonderful "lusus naturæ."

The infant, above the anterior superior spinous process of the ilium, is perfectly natural. Below this point, the pelvis widens, and from the normal positions arise two well-formed legs which diverge at an angle of eighty degrees. Between these legs arise a second pair which proceed downwards almost parallel, looking backwards in respect of the infant. The femurs of the abnormal legs are straight, apparently having no trochanters, are articulated with the rami of the pubes, and are coverd with imperfect muscles, adipose tissue, and integument, which give the thighs the rotund appearance, and fleshy feel of natural thighs—they have cushion-like prominences similating nates. The fascia, and integument from the sacrum and abdomen, are continuous over the abnormal appendages, there being no fossa or fold to mark the point of junction.

The question here naturally comes up, where is the anus and vulva? The answer involves a description of a most wonderful freak of nature. Not between the abnormal legs as would be presumed, but *on each side of them. Between them and each one of the normal legs, are a distinct anus and vulva.* These ani and vulvae are situated between the adductor muscles of the normal legs, and a point on the abnormal ones, where we would expect to find the trochanters. It seems the infant has but one colon, and urinary bladder, but the rectum and urethra are bifurcated, each branch terminating at the anus and vulva on its corresponding side; for it expels fæces from both ani simultaneously, and urinates from both vulvæ at the same time. The vulva and anus on each side are at the natural distance apart, the perineum intervening. I cannot say whether or not it has vaginæ. It has no control over the movements of the supernumerary legs, which hang pendulously as if paralytic.

At a distance of ten feet the infant presents to the beholder the appearance of an infant giving birth to a fœtus nearly as

large as itself. This appearance is intensified if we ignore the inner lips (in respect to the infant) of the two vulvæ. Indeed it does seem as if a fœtus had descended in the median line from the interior of the pelvis, cleaving the parts before it, and just as its pelvis was emerging, had been arrested in its progress, and consolidated with the structures surrounding it; and nature, all fertile in resources, in order to compensate for its devastation, had constructed the organs we behold.

The infant is nine days old, will weigh about twelve pounds, is healthy and hearty, and there is no reason to doubt its arriving at maturity. The mother, (Mrs. Coburn, Milville, Lincoln Co., Tenn.,) evinces a desire to exhibit it to members of the profession. It has been examined by Drs. C. B. McGuire, F. Oliver, and F. Stevenson, Milville, Tenn.—*Cincinnati Medical Repertory.*

Notes of a Case of Malposition of the Female Urethra. By CORNELIUS B. FOX, M. D., M. R. C. P., Scarborough.

A WIDOW lady, aged 84, summoned me in great haste a short time since, at 9.30 A. M., on account of retention of urine. I had, about two months before, attended her during an acute attack of bronchitis, and had relieved the most annoying symptoms of chronic cystitis, a disease from which she had suffered for four years. On my arrival, I ascertained that no urine had been passed for twelve hours, and but very little during the preceding day. The bladder was much distended, the tumor being painful on pressure. Having a rather large gum-elastic female catheter in my pocket, I immediately attempted to pass it, but could not introduce the instrument further than one-third of an inch into a canal, whose aperture existed in the ordinary situation of the meatus urinarius. As the passage of a female catheter is undoubtedly a surgical proceeding (although physicians often undertake it, for one or two very obvious reasons), and as a smaller instrument seemed necessary, I asked a surgeon to remove the urine as soon as possible. He found it impossible to pass either the smallest gum-elastic or smallest silver catheter, more than a third of an inch into the canal above referred to. We accordingly ordered her forty minims of tincture of opium, and a hot bath. At 6 P. M. she appeared somewhat worse. A very small quantity of urine had trickled away, but the bladder was more distended. Another attempt was made to pass a catheter, which was successful. It was surprising that, notwithstanding the great distension, there was so little constitutional disturbance. We ordered a turpentine enema, and a draught containing one drachm of tincture of opium to be administered immediately. Whilst we were consulting together regarding the treatment, my companion made some remark as to the bare possibility of the existence of some malposition of the urethra. At 9.30 P. M. we

found her in a very nervous and excited state, partly due, doubtless, to the opium, which had not produced any narcotic effect. She had passed during the action of the enema as much as ℥iss or ℥ij of urine. Thinking it impossible that this quantity could have passed through the impermeable canal into which the catheters had been directed, I suggested that we should *see* our patient pass a few drops of urine. This feat was accomplished with some difficulty; but it resulted in the dispersion of all the obscurity that had hitherto surrounded the case. The urine was seen to issue from an orifice situated on the upper part of the anterior wall of the vagina, about three or three and a half inches behind and above the normal position of the urinary meatus, in close proximity to the anterior lip of the os uteri. A silver catheter was rapidly passed, and its introduction was followed by the exit of about three pints of dark ammoniacal urine. Our patient of course experienced immediate relief. The catheter was again, and for the last time, introduced on the following morning, after which she rapidly regained perfect control over the bladder. Appropriate remedies were then administered to remove the ammoniacal condition of the urine. The orifice of the vagina was observed to be small, but no other abnormality than that specified was discovered. She had never been pregnant, although married a great many years.

The foregoing case is of interest, not only to those who make obstetrics a speciality, but to all medical men. It may not also be unacceptable to pathologists and other scientific men, who are engaged in the study of abnormalities.—*British Medical Journal.*

Animal Quinoidine.

THIS curious substance was discovered by Dr. Bence Jones, and has been the subject of an interesting paper, by Drs. E. Rhoads and W. Pepper, in the *Pennsylvania Hospital Reports*, 1868. It causes the phenomenon known as fluorescence of tissues. We learn, from the *Gazette Hebdomadaire*, that Dr. Chalvet has proved before the Societe de Biologie, that this is not produced in the tissues, as the previous observers supposed, but is found in most articles of food, especially wine and vegetables. It is introduced into the organs with these ingesta, and mixes with the fluids of the body, like iron, but is never originated there. His researches tend to prove its identity with quinine.

Curious Experiment.

IN this month's *Revue Populaire*, of Paris, Dr, Bader gives the following curious experiment, made by Dr. Claude Bernard: If oxygenized blood be injected into the arteries of the neck, immediately after decapitation, warmth and sensibility return; the eye gets animated, and displays such strong perception that a hammer shaken before it will cause it to wink and look sideways.

The Pharyngo-palatine Muscle in Man.

Prof. Dr. Hubert Luschka, of Tubingen, publishes a very thorough description of this muscle illustrated by an excellent lithographed drawing in the *Archiv fur pathologische Anatomie und Physiologie und fur Klinische Medicin (Virchow's Archiv,)* Bd 42, Hess 4, March, 1868, p. 480. He mainly vindicates by renewed studies and careful dissections, the statements already made in his splendid work on Anatomy. For convenience of description he distinguishes a thyro-palatine and a pharyngo-palatine portion in the muscle in question, and therefore calls it thyro-pharyngo-palatine muscle. Its fibres are, he contends not disposed in ring form to constitute a sphincter as Merkel states. In its total function it combines with the temporary closure of the pharyngo-nasal space, the shortening of the pharynx and the corresponding elevation of the larynx. For intelligible details we must refer the reader to the original.

Anomalous Development of the Thyroid Cartilage.

Prof. Dr. Hubert Luschka, of Tubingen, reports in *Virchow's Archiv*, Bd. 42, Hess 4, March, 1868, p. 478, a rare anomalous development not hitherto described, which he has found three times on the left side of male larynges. It is the absence of the upper horn of the thyroid cartilage as ordinarily observed, and in its place a colossal *corpus triticeum* as it were, which was enclosed by the lateral thyro-hyoid ligament. The possible occurrence of such an independent or loose superior horn of the thyroid cartilage should be remembered in diagnosing a fracture of this cornu. It leads Dr. Luschka to suggest that the ordinary tritical body may perhaps originally be a sort of epiphysis or the pointed extremity of the upper horn which has become separate and independent.

Interstitial Matter of Nerve-Centres.

MM. Magnan and Hayem have communicated to the Micrographical Society of Paris, August 6th, 1865 *(Robin's Journal*, 1867, p. 107), an account of the interstitial tissue of the white matter of the nerve-centres, which Virchow had previously named *neuroglia*. This tissue is characterised by containing a large proportion of nuclei, more rarely cells, of a spherical or ovoid form, which are easily colored by carmine. They lie in the direction of the nerve-fibres, and are not more numerous in the vicinity of the blood-vessels. They are almost equally numerous in all the different regions of white matter, except that in the spinal cord they are much less abundant. These nuclei correspond with those long since recognised in the grey matter, to which M. Robin has recently given the name of myélocytes.—*British Medical Journal.*

MEDICAL CHEMISTRY, THERAPEUTICS AND MEDICAL JURISPRUDENCE.

COLLATED BY WM. HUTSON FORD, M. D., PROF. MEDICAL CHEMISTRY, ETC., NEW ORLEANS SCHOOL OF MEDICINE.

On the Mode and Administration of Phosphorus and of its Effects in Small Doses.

For internal administration, Dr. G. Dujardin Beaumertz recommends one gramme of phosphorus to be dissolved in one thousand grammes of chloroform; this solution is enclosed in gelatin capsules (perles) each of which should contain ten centigrammes of the solution. To guard against the action of light, capsules should be colored. In administering the capsules, one should be given on the first day, two on the second, three on the third, the dose being increased by one capsule daily, until some signs of derangement of the digestive organs, colicky pains, vomiting or diarrhœa, occur; the phosphorus is then intermitted, to be again resumed, after an interval of several days, on their complete subsidence, being careful always to recommence with small doses. Dr. Dujardin Beaumertz has carried the dose as high as ten capsules.

Given in small doses phosphorus produces great excitement of the nervous system, increase of muscular activity, exhilaration of the spirits, and sometimes excitement of the genital organs, without causing any decided effects upon the circulation or the temperature.—*New York Medical Journal.*

Digitalis.

Dr. J. D. Brown relates six cases in the *Medical Times and Gazette*, for January 25, 1868, in which he used digitalis in the form of poultice in suppression of urine. He made use of the fresh leaves, dried leaves, or the tincture mixed with flaxseed. All the cases obstinately resisted all other remedies, and it was only after waiting three or four days that the remedy was tried. In each case secretion of urine was obtained. The first case terminated fatally on account of lack of care in the use of the remedy; after a suppression of nine days duration the drug was used, and from 4 A. M. to 10 P. M., the patient passed enough urine to fill "eight ordinary-sized chamber vessels and was still making it." Another case was relieved, but suppression recurring she was neglected by her attendants and died. The other four cases recovered.

"The rules of management must depend on the pulse. I have seen no good results till the pulse fell in number; it matters not from what figure: fall it must before any change occurs. I would strongly advise 60 as a standard from a high number; 40 or 50 from a lower figure—say from 80. Judging from the effects on

the circulation, we cannot lose sight of the fact that the arrest of secretion depends on capillary congestion, which in turn might, by pressure, paralyze the nerves. The fact, however, remains that we compel the kidney to resume its functions by diminishing the force of the circulation, lessening the quantity of blood by allowing a much longer interval between each new arrival. Strange, too, it is that in four cases the attack commenced suddenly like a fit of stone, and, in reality, stone came away in each case.

" . . . . It is not supposed that it will succeed in all cases of that mysterious disease; but it is clear that it has a powerful influence over the renal secretions, and if carefully watched, taking the pulse as a guide, no mischief need be feared."

Iodine and Carbolic Acid.

THE *Journal des Connaissances Medicales* publishes a letter addressed to Dr. Caffee on Dr. Percy Boulton's late discovery of the action of carbolic acid on iodine. "The inconvenience," says the writer, "attending the external application of iodine and its preparations is so serious that physicians are often compelled to abandon a remedy, the therapeutic efficacy of which is undoubted, nay almost unequaled, in *materia medica*. The great objection to the external use of this remedy is, that it leaves marks both on the linen and on the skin. This is sufficient motive for seeking some means of getting rid of this drawback, especially in the case of ladies. Dr. Percy Boulton's method consists in adding a few drops of phenic (carbolic) acid to the iodine solution to be employed. This addition renders iodine perfectly colorless, so that it may be applied with impunity. But this combination has another advantage. It appears from that practitioner's observations, which I can affirm, that, so administered, cerbolate of iodine, which is the new substance in question, is not only one of the most powerful antiseptics we possess, but is intrinsically a more efficacious agent than iodine alone. I have used this compound under the form of injections, gargles, and lotions, in all cases in which iodine is prescribed. In sore throat, ozæna, abscess in the ear, etc., this preparation is a sovereign remedy; since, besides its disinfecting qualities, it modifies the mucous membrane, causes all local sensibility to disappear, and cures the patient much sooner than if either of the two agents were employed separately. The formula I employ is as follows: Compound tincture of iodine, 3 grammes; pure liquid carbolic acid, 6 drops; glycerin, 30 grammes; distilled water, 150 grammes.—*Scientific American.*

Iodine is also deprived of its color by the hyposulphite of soda, and it is best effected by adding one-sixth of a saturated solution to the tincture of iodine. The latter floats upon the former, but thorough agitation will produce a beautifully clear solution.

Iodoform.

This substance, in powder, has recently been applied, in Paris, with great success, to the surface of obstinate ulcers. It rapidly causes them to heal. The *Journal of Applied Chemistry* remarks of it: "In addition to the virtues which it possesses in common with iodine, it is very useful as an anodyne, and especially in neuralgic affections. In many local diseases it is employed with good success. It possesses anæsthetic properties when volatilized and inhaled, though to a degree inferior to chloroform or ether. On the score of economy, it is fully equal to iodine or any other of its compounds, and far preferable to most of them, on account of being a non irritant, and becoming more readily absorbed and assimilated in the system. We trust that its use will become more extensive, and would urge physicians to test its qualities more thoroughly."—*Medical and Surgical Reporter.*

Rosin-Weed—Silphium Laciniatum; A Reported Specific in Asthma.

Dr. Garrison gives to the *American Eclectic Medical Review*, the information that the rosin-weed has been affirmed by several persons to have cured obstinate cases of asthma. The knowledge was obtained from several independent sources, and is therefore considered more valuable. Dr. Dadd, the veterinarian, asserts that the rosin-weed will cure or alleviate the heaves in horses, the animals being very fond of it. A similar plant, the *Silphium perfoliatum*, has according to Prof. King, tonic, diaphoretic and alterative properties. It is undoubtedly powerfully diuretic. "The rosin-wood, *silphium laciniatum*, known also by the common names 'polar plant' or 'compass plant,' from the circumstance that its leaves quite uniformly point North and South, is a member of the large order *Compositæ*, and abounds throughout the high rolling western prairies. The stem is from three to ten feet high, and rough, with white hispid hairs. The leaves are one-half to two feet long, much divided, alternate, and lower ones peticlate. The stalk bears four to eight large showy heads with yellow rays, and flowers in July and September. The root is large, straggling, and of a tough, leathery consistency. A smoothly cut surface presents a resinous lustre. The entire plant is possessed of a bitterish taste, but pleasant aroma, due to a volatile oil. Other species of this genus, as *S. Perfoliatum*, are also known as 'rosin-weed,' 'Indian cup plant,' and are possessed of similar, if not identical, medicinal properties. The whole genus, embracing five species, abounds in volatile oil and rosin, which exudes in the form of small white spots or tears similar to those of mastich." A fluid alcoholic extract is the best form for administration, the dose being from twenty to forty drops.—*Druggists' Circular and Chemical Gazette.*

The Climate of Aiken, S. C., Being a Paper presented to the American Medical Association at its recent meeting, by W. F. Percival, M. D., of Aiken, S. C., and recommended for publication in a leading Medical Journal.

Believing that a thorough and more extended knowledge of the topography and climate of Aiken, as a winter residence for consumptive patients, would be interesting and useful to the profession, and that the large proportion of persons, who have accidentally been induced to visit the place, indicates that the medical profession generally are not aware of the peculiar advantages of the locality. I have deemed that a short description of the topographical and meteorological condition of Aiken would be interesting, not only to physicians, but to thousands of sufferers who are now sent indiscriminately to the warm, moist climate of the South, or to the dry and very cold climate of the North.

Of late years the adaptation and influence of climate in the treatment of tuberculosis, has attracted the attention of eminent men both in Europe and the United States. The peculiarities to be sought and the evil influence to be avoided have filled volumes.

With no wish to enter into a disquisition on the treatment of tuberculosis, I beg leave to present to the attention, and for the consideration of this Association, a few facts relative to the climate of Aiken.

The town is in Barnwell District, S. C., 120 miles from Charleston, and sixteen miles from Augusta, Ga. It is situated at the western end of the elevated table land, containing an area of about twenty square miles. Its elevation is 600 feet above tide water, and 400 feet above the Savannah river at Augusta. The soil is sandy, with a substratum of siliceous red clay. This soil is exceedingly porous, no water being found at a less distance than from 80 to 125 feet. The water obtained from this depth is clear, with a temperature about 60° Fahr., slightly impregnated with iron, not enough, however, to affect its sensible properties.

The drainage of this table land is effected through crecks, located from four to six miles at the nearest point, and with a depression of from 150 to 300 feet below the level of Aiken. It is surrounded for many miles with a growth of long-leaf pine and dwarf oak. From its great elevation and distance from watercourses, it is exempted from all malarial diseases, endemics are unknown, and epidemics exceedingly rare; when they do occur the type is very mild. The mean temperature of the winter months is 44°; that of the summer months 77°; the annual mean about 52° Fahr.

The prevailing winds are from the south and southwest.

As the hygrometric condition of the atmosphere is of material importance, I regret that I can give no observations by means of instruments, and must rely on comparative means as illustrative of dryness of atmosphere. Steel instruments do not rust when

exposed, mur. soda, nit. potas., sulph. mag., etc., etc., absorb but little moisture, and do not sensibly change, even when exposed for months. Facility of access and the avoidance of a long and tedious journey, are of great importance in the case of invalids.

Aiken is within forty-seven hours' travel by railroad of New York, the South Carolina Railroad passing through the centre of the town. There are daily mails and telegraphic communication with all parts of the Union; and the comforts and luxuries of the large cities are readily obtained. Tuberculosis being the result or symptom of lowered vitality, and a depressed state of nervous power, and from the fact that a warm, moist atmosphere conduces to the softening of tuberculous deposits, and the supplementary action of the skin, which is always greatest in dry, elevated localities, and always least in moist climates, it seems useless to dwell upon the necessity of an elevated, moderately cold and dry locality, for the climatic treatment of tuberculosis. I will here give a statement of the meteorological condition of places to which invalids are usually sent:

St. Augustine, Florida: elevation about 20 feet, situated on the shores of St. Augustine Bay. Winter mean, 58°; summer mean, 80°.

Pilatka, on the St. John's River: elevation, 25 feet. Winter mean, 57°; summer mean, 80°.

Jacksonville, on the St. John's River. Winter mean, 58°; summer mean, 82°.

St. Paul's, Minnesota. Winter mean, 19°; summer mean, 68°.

A comparison of the meteorological status and accessibility of Aiken, with the warm, moist climate of Florida, and the dry, but exceedingly cold climate of Minnesota, will, I think, recommend it to the attention of the medical profession. A more extended publicity of its advantages would undoubtedly be the means of relieving much suffering; and should I succeed in calling the attention of members of this Association, who may not heretofore have known of this locality, my object will have been accomplished.—*Medical Record.*

Solvent Power of Glycerine.

THE solvent power of glycerine upon several substances commonly used in medicine and the arts, is as follows: One part of sulphur requires 2000 parts of glycerine; iodine, 100 parts; red iodide of mercury, 340 parts; corrosive sublimate, 14 parts; sulphate of quinine, 48 parts; tannin, 6 parts; veratria, 96 parts; atropia, 50 parts; hydrochlorate of morphia, 19 parts; tartar emetic, 50 parts; iodide of sulphur, 60 parts; iodide of potassium, 3 parts; sulphide of potassium, 10 parts.—*Medical and Surgical Reporter.*

Quinoidine.

Dr. Chalvet has repeated, before the Biological Society of Paris, experiments on *fluorescence* which tend to throw some doubt on Dr. Bence Jone's conclusions respecting quinoidine. The facts, however, mentioned by the latter physician have been fully confirmed by Dr. Chalvet, whose experiments again prove that the living tissues contain a substance giving rise to a *fluorescence* exactly similar to the refractive phenomena of sulphate of quinia. Dr. Chalvet has also found, like Dr. Bence Jones, that this *fluorescent* disappears in acute febrile diseases; but he does not agree with Dr. Jones as to the origin of this supposed quinoidine. Dr. Chalvet has shown, on the contrary, that this *fluorescence* substance exists in most articles of food, especially in wine and vegetable substances. From these researches the French author concludes that the so-called quinoidine is nöt derived from albumen; that it is introduced into the organism by the ingesta; that it mixes with the animal fluids, as happens with iron; but that (herein quite similar to iron) it does not spontaneously spring up in the animal tissues. As this quinoidine is rapidly eliminated, low diet somewhat prolonged must cause the *fluorescence* of the urine to disappear, and thus is explained the supposed destruction of quinoidine by fever. Dr. Chalvet is inclined to class the substance in question with quinia itself, which may be supposed to exist in infinitesimal quantities in all vegetables, and thus would its constant presence in the tissues and fluids of animals be accounted for. Lancet, May 16, 1868.—*Medical News and Library.*

Action of Different Disinfectants on Bilge Water.

[Dr. Beranger Feraud, after experimenting with various disinfecting agents in the hold of the Imperial Steam Yacht "Jerome Napoleon," published the results in detail. The whole is substantially stated in the following conclusions:]

1. Wood charcoal is radically inefficient and inapplicable.

2. Chlorine and chloride of lime are hurtful as well as inefficient.

3. Carbolic acid is of no use, and has an insupportable odor.

4. Protosulphate of iron may for the present be preferred; it is sufficiently active to be of considerable use, and very low in price.

5. Permanganate of potash is infinitely superior to all the preceding substances, and is destined to put them all into the shade so soon as it can be sold at a figure permitting its use on the large scale. Even its present price is no bar to its employment, when it is necessary rapidly and completely to purify a ship's fetid bilges.—*Medical Press and Circular.*

Manufacture of Ozone.

OZONE is a powerful disinfectant, and the fact, therefore, that it can be manufactured at little cost on a large scale is worth knowing. For this purpose one of Wilde's Electro-magnetic machines is used. One has been introduced in a large sugar refinery to bleach the syrup. This it does by the formation of ozone, which is a most powerful bleaching agent; being, according to Faraday, oxygen in a peculiar, active condition, or according to Bunsen, compound of hydrogen with 3 or 5 atoms of oxygen, in which compound, following a universal chemical law, the oxygen is very loosely combined and enters more readily into new combinations than simply uncombined oxygen. The apparatus is made by a steam engine of 15 H. P. The coils are four feet high, ten inches thick, and contain each thirty pounds of copper wire. The armature makes not less than 15,000 revolutions in a minute, and the light produced is so strong that the unprotected eye cannot look at it; concentrated with a lens at a distance it ignites combustible substances like sunlight, and the heat may be felt at a distance of one hundred and fifty feet. The working expense, including that of the steam engine, is said to be from fifteen to sixteen cents per hour. In Manchester it is successfully used for photographing at night. Such a powerful source of electricity, producing a large quantity of ozone from the moist atmosphere can be used for many other manufacturing purposes. Such a machine may be useful in places inhabited by a great number of persons, as hospitals, asylums and the like.—*Medical and Surgical Reporter.*

The Bromates.

DR. RABUTEAU reports in the *Gazette Hebdomadaire de Médecine et de Chirurgie* for April 24th, 1868, the result of a series of experiments made by him with the various bromates, from which he concludes, that they act at first in a manner analogous to the chlorates, but that they are soon changed in the system to bromides, and act then even more actively in this nascent state, than if an equal amount of bromides had been swallowed. He found bromate of potassa more active than bromate of soda, as fifteen grains produced great sedation and nausea in himself, the effects beginning an hour after the salt was taken.

The bromates are more powerful than the iodates. A few minutes after swallowing a bromate, it appears in the urine (in one case ten minutes after taking bromate of soda). After a few hours (seven hours in the above case), no more bromate can be found, but a bromide takes its place, and persists both in the urine and in the saliva for more than a month, even when not over fifteen grains have been taken originally.

For detecting the presence of a bromate, Dr. Rabuteau has

invented a method founded on the power which sulphurous acid possesses of isolating bromine from the bromates, and on the power of bromine of bleaching instantly the solution of indigo in sulphuric acid. He colors feebly with this solution water or urine containing bromic acid, and then adds the solution of sulphurous acid, when the color is instantly lost. He can thus detect the presence of one part bromine to a million of water, or one to half a million of urine.

The detection of a bromide in the urine is not so easy as the usual method of adding chlorine or nitric acid, and then agitating with sulphuret of carbon, which does not produce the characteristic orange-tint unless the bromide is in great quantity. It is necessary to evaporate to dryness, incinerate the residue, and then add distilled water, and after filtering this solution, the sulphuret of carbon test may be applied. Soda must be added to the urine before evaporation is begun.—*Medical and Surgical Reporter.*

Glycerine and Yolk of Eggs.

FOUR parts, by weight, of yolk of egg, rubbed in a mortar with five parts of glycerine, according to the Philadelphia *Journal of Pharmacy*, gives a preparation of great value as an unguent for application to broken surfaces of the skin of all kinds. The compound has a horny-like consistence, is unctuous like fatty substance, but over which it has the advantage of being quickly removed by water. It is unalterable, a specimen having laid exposed to the air for three years unchanged. Applied to the skin, it forms a varnish which effectually excludes the air, and prevents its irritating effects. These properties render it serviceable for erysipelas and cutaneous affections, of which it allays the action.—*Medical and Surgical Reporter.*

Elixir of Vitriol and Tannin as a Hœmostatic.

THE combination of elixir of vitriol and tannic acid has proved upon trial, a very convenient hæmostatic for dental use. It has been found very effective in internal as well as external hæmorrhages, and is more agreeable, when applied to the mouth, than many of the agents possessing like properties. By its application a violent hæmorrhage following excision of the tonsils was immediately and permanently arrested. It is also effective in diarrhœa where astringents are indicated. We recommend this preparation for hæmorrhages following the extraction of teeth, in two cases of which we have successfully used it.—*American Journal of Dental Science.*

Rationale of Arsenic in Skin Diseases.

THE *Scientific American* suggests that arsenic acts in skin diseases by poisoning the parasites, now *supposed* to be their cause. It says:

"Arsenic, and its oxides, arsenious acid, As O3, arsenic acid, As O5, and its salts are all highly poisonous. When taken into the stomach they are not assimilated, but are absorbed and distributed through the entire system. When taken in extremely small doses, no inconvenience is felt by the patient; it is eliminated as fast as it is supplied. But if the dose be increased, poisonous effects will be produced, because the system cannot clear itself of the noxious matter with sufficient rapidity. The eyelids present a puffed appearance, which is an indication that the remedy has accumulated, and that its further administration would inconvenience and endanger the patient. Now at this stage the poison is equally distributed, in a state of extreme subdivision, and its elimination takes place largely through the pores of the skin, each of which is a nidus for a parasitic growth, and here becoming mixed with the pabulum which nourishes the parasite, it, by actual poisoning, destroys the cause of the mischief."

A New Styptic.

ONE part of crystalized perchloride of iron, gradually and carefully mixed with six parts of collodion, so as to prevent evolution of heat, which injures the collodion, forms an excellent hæmostatic for wounds, leech bites, etc. The composition when well made is of a yellowish red color, perfectly limpid, and produces on the skin a yellow pellicle which retains great elasticity. *American Journal of Dental Science.*

A New Anodyne.

DR. A. H. GALLATIN, of this city, communicates the following: Having a case where the oxide of zinc and bromide of potassium had failed in producing sleep, and where the cerebral symptoms prevented the exhibition of any preparation of opium, I thought of trying a combination of codeia, ipecacuanha, and sulphate of potash, in imitation of pulv. Doveri. The result satisfied my theoretical expectations. Morphia, codeia, and perhaps other alkaloid extractions of opium are now universally used, when the narcotic without the stimulating effects are to be produced. By combining these principles with ipecacuanha, I think I have provided a mixture which may be given in cases where it would not be judicious to use pulv. Doveri.

Several members of the faculty are at present trying this mixture in their practice, at my suggestion. I hope soon to give an account of the result.—*Medical Record.*

On Protagon and its Relations in the Organism.

BEFORE entering into any details regarding the remarkable discovery recently announced by Liebreich of a substance to which he gives the name of Protagon, and which he regards as the essential ingredient of the brain and nerve-tissue generally, it may be as well, for the clearer understanding of the subject, to give a brief historical sketch of the chemistry of the cerebral and nervous matter. In Simon's "Animal Chemistry," published in 1842, analyses are recorded as having been made by Denis, Vauquelin, and Lassaigne, which prove that the mass of the brain, when freed as far as possible from vessels, blood, etc., consists of water, albuminates, fat-like bodies containing phosphorus, extractive matters, and salts. Subsequent analyses by L'Héritier (quoted in the English translation of Simon, 1845), Von Bibra, Schlossberger, and others, associated with the results quoted above, show that the great mass of the brain—viz: 77 per cent. (by weight)—is composed of water, while the remaining 23 per cent. consists of an admixture of probably three varieties of albuminates, averaging 9-6 per cent.; of extractive matters, averaging 1-1 per cent. (from which various known organic matters, as inosite, sarcine, xanthine, hypoxanthine, creatine, lactic acid, volatile fatty acids, uric acid (?), and, in cases of disease, leucine, urea, and glycogen, but no sugar, have been separated); inorganic matters mainly consisting of phosphates and free phosphoric acid; and fat-like bodies which constitute at least 12 per cent., or more than one-half, of the solid matter of the brain.

The large amount of phosphates and free phosphoric acid, collectively forming 95 per cent. of the ash, is due to the phosphorus contained in the brain fats, the ether-extract of which takes up the fat-like matters, yielding from 1.5 to 2.6 per cent. of free phosphorus. It has been long noticed that an overworked brain is apt to be associated with an undue excretion of phosphates in the urine. Provided there be a positive increase of phosphates in the twenty-four hours' urine—for the mere presence of a phosphatic sediment is no proof that the phosphates are excreted in excess—we have an important hint both in relation to the nature of the case and its treatment. This is the sole practical result which the chemistry of the brain has yet yielded us. Whether the discovery of the new substance protagon, which supplants all the previously known fat-like bodies except cholesterine, and simplifies in a marvellous degree the chemistry of the subject, will lead to any additional results of practical value either to the Physician or the Physiologist, time alone will show.

Previously to the year 1841, Couerbe's view regarding the brain fats was universally adopted. In addition to cholesterine, he found that there were four distinct fat-like matters, to which he gave the names of eleencephol, cerebol, cephalol and stearaconol. In 1841, Frémy utterly overthrew Couerbe's view (except in so far as the presence of cholesterine is concerned), and showed that

his supposed new bodies were only mixtures of known substances—olein, and oleic, palmitic, and stearic acids—with albuminates and two previously unknown substances, to which he gave the names *cerebric acid* and *oleo-phosphoric acid*. Dr. Fr. Müller subsequently obtained from the brain a white crystalline powder to which he gave the name *cerebrin*. In many respects it resembles Frémy's cerebric acid; but of the nitrogen, sulphur, and phosphorus which Frémy found in the latter, it contained only nitrogen, and it likewise differs from cerebric acid in being insoluble in alkalies and ammonia, and in being incapable of forming salts.

A new epoch now commences in the chemistry of the brain. It is about three years since Liebreich first announced his discovery that scarcely any of the supposed fat-like matters of the brain had any actual existence. Neither cerebrin nor cerebric acid, neither lecythin nor any one of the so-called phosphorus-containing fats, in reality exists in the brain, which is mainly composed of a single essential substance termed *Protagon*, whose various products of decomposition form most of the various substances which have hitherto been regarded as brain-constituents.

In order to obtain protagon from the brain, we must, in the first place, get rid of the blood by the injection of water into the carotid arteries; the brain must then be cut into thin slices, triturated, and repeatedly shaken with water and ether at 32° F. The ether takes up most of the cholesterine (which has been long recognised as an ingredient of the brain), while the water removes certain matters soluble in that menstruum. A nearly pure brain-pulp now remains, from which protagon may be readily extracted in large quantity by alcohol of 85 per cent. at 112° F. On cooling this alcoholic solution to 32° F., there is an abundant flocculent precipitate, which must be washed with cold ether till the latter ceases to extract any cholesterine. On now dissolving the protagon thus purified in dilute warm alcohol, and allowing the solution to cool, we obtain the perfectly pure substance in snow-white, microscopic, acicular prisms, arranged in radiating or star-like groups.

According to Liebreich's analysis, protagon contains, in 100 parts, carbon 66·7, hydrogen 11·7, nitrogen 2·8, phosphorus 1·2, and oxygen 17·6; and is represented by the complex formula $C_{32}H_{240}N_4PO_{44}$ (where C=6 and O=8). It swells very much when placed in water, forming a translucent starch-like paste, and for its solution it requires a very large quantity of water. It dissolves in strong acetic acid and in alcohol. At a temperature somewhat below 312° F., it becomes a soft plastic mass. When boiled, for at least twenty-four hours, with saturated baryta-water, it breaks up into *glycero-phosphoric acid*, a strongly alkaline base to which Liebreich gives the name *neurine*, and *fatty-acids*. Glycero-phosphoric acid ($C_6H_9PO_{12}$) is formed so readily by decomposition from protagon that the presence of the latter should always be suspected wherever the acid occurs. Neurine ($C_{10}H_{13}N$) is obtained, by a process which we need not describe,

in the form of fine crystalline needles. It is worthy of notice that it is isomeric with amylamine, which occurs as a product of leucine, one of the brain-constituents. The fatty acids appear, from Liebreich's experiments, to be stearic acid associated with another fatty acid which is neither palmitic nor oleic acid. The following scheme may give a correct idea of the decomposition which ensues when protagon is decomposed either spontaneously or by baryta-water:

Protagon $= C_{232} H_{240} N_4 PO_{44}$
$= 4C_{10}H_{13}N \times C_6 H_9 PO \times {}_{12}C_{186} H_{179} O_{32}$
= 4 at. neurine x at. glycero-phosphoric acid x remainder, consisting of fatty acids, stearic acids, etc.

From what has been as yet ascertained regarding the products of decomposition of protagon, it is not improbable that Frémy's cerebric acid is a mixture of protagon and the fatty acids which it yields, while Müller's cerebrin is probably a compound of nitrogenous neurine with a non-nitrogenous fatty acid. On these assumptions the presence of nitrogen and phosphorus in the cerebric acid, and the presence of nitrogen and the absence of phosphorus in the cerebrin, are accounted for.

Since protagon yields glycerine, the decomposition of the former may account for the presence in a not quite fresh brain of some of the products of decomposition of the latter—as, for example, propionic acid, butyric acid, formic acid, and acetic acid.

Dr. W. Kühne—from whose chapter on the Chemistry of the Brain, in his "Manual of Physiological Chemistry" (just completed), we have borrowed freely in this article—points out that protagon possesses many properties which admirably qualify it to act as an important constituent of the medullary matter of the nerve-fibres. It is by no means improbable that the presence of protagon crystals in the medullary matter may serve to explain the phenomena recently observed by Klebs on examining a transverse section of a nerve by polarised light. Again, the tendency of protagon to sink in water till a starch-like paste is produced, which is translucent in thin layers, with a glistening appearance, and the slowness with which the mass dissolves in an excess of water, closely correspond with the facts observed by histologists in their study of the medullary matter.

Many of our readers may perhaps recollect that about a dozen years ago Virchow announced the discovery, in various healthy and morbid structures, of a substance closely allied to, if not identical with, nervous medullary matter. To this substance, which he found in the nerves, spleen, yolk of egg, testes and seminal fluid of various animals, in pus, in diseased lungs, in the ovaries, the bile, etc., he gave the name *myelin*. Although it is by no means impossible that myelin may be formed from other matters—as albumen, fatty-acid salts, and fats or cholesterin—Liebreich has experimentally shown that it is readily obtained from protagon. Thus, if a little protagon be mixed with a drop

of oleic acid and a little ammonia, or if it be similarly treated with the base, neurine, in place of ammonia, the most beautiful forms of myelin are developed. As undecomposed protagon is found in these mixtures, Liebreich's view that myelin is a mixture of protagon with some of its products of decomposition is most probably correct; and, as a general rule, it may be laid down that wherever myelin is found protagon is probably present also.

If these views are correct—and they are endorsed by the latest German writers on physiology and animal chemistry, as Gorup-Besanez, Hoppe-Seyler, and Ranke—they simplify in an enormous degree the complexity of the chemistry of the brain, which, independently of its water and inorganic salts, may be regarded as essentially composed of protagon, albuminates, and cholesterine, with traces (probably unimportant) of many other organic matters.

Various observations have been made during the last two or three years on the nature and occurrence of this remarkable body, protagon. L. Hermann has proved its existence in the red corpuscles of the blood, and has shown that it does not exist in the serum, while Hoppe-Seyler has detected it in the colorless corpuscles. Fischer has found it in pus-corpuscles; Kühne names it as one of the ingredients of the pulmonary tissue; and there can, we think, be little doubt that it exists wherever myelin has been detected by Virchow and others.

The chemistry of the brain has till now been in such a complete state of anarchy—each chemist in succession who devoted himself to it only contriving to demolish the labors of his predecessor in order to meet with a similar fate for his own investigations—that we sincerely trust that we have at last arrived at a result that will stand the test of further inquiry; and with this feeling we heartily welcome the accession of protagon into the list of ingredients of the animal body, and trust that it will retain its position.—*Medical Times and Gazette.*

Spectral Analysis.

In Prof. Roscoe's fourth lecture on spectral analysis, delivered at Apothecaries' Hall, on Saturday, the 23rd inst., the subject of the different colored lights emitted by different gases when heated by the electric spark was resumed. The spectrum of hydrogen was examined, and it was shown that the light emitted by it was made up of three lines, bright red, green, and indigo, which are coincident with three well-known dark lines in the solar spectrum, a proof that hydrogen is contained in the solar atmosphere. The changes in the color of the light emitted by nitrogen under different conditions of rarefaction, and their supposed dependence on allotropic variations of nitrogen, were noticed, together with the fact that such variations are not observed in other substances,

such as oxygen, sulphur, phosphorus, under the same circumstances. The spectra of carbon compounds when brought into the condition of heated gases was next discussed, of which cyanogen with its peach-colored flame was selected as an example. The practical value of spectrum analysis was illustrated by its application to the flames emitted during the Bessemer process of converting cast iron into steel. Practised workmen know by changes in the color of the flame the exact moment at which it is necessary to shut off the air. This moment coincides with the disappearance of the carbon lines in the spectrum of the flame, which becomes then continuous. The lecturer then went on to an examination of the spectra of the heavy metals. The mode in which this is accomplished is by volatilising the substance to be examined in the electric arc. The light of the electric discharge was first demonstrated, and it was shown to be emitted by ignited matter, partly by the brass of the pole and partly by watery vapor contained in the air. The different colored spectrum-lines of different metals—copper with its green band, zinc, cadmium, silver—were demonstrated. The concluding part of the lecture was devoted to a demonstration of the fact that fluids exert an absorptive power on the light which passes through them. The absorption spectra obtained by an examination of blood and other colored fluids were demonstrated, and the fact that the presence of carbonic oxide in blood alters the character of the dark bands in the blood spectrum was instanced as affording reason to believe that spectrum analysis would some day prove of use in the inquiries of Medical jurisprudence.—*Medical Times and Gazette.*

On Iodide of Methyle. By JAMES TURNBULL, M. D., Liverpool.

THE IODIDE OF METHYLE is a transparent, oily-looking liquid, which dissolves very sparingly in water, and is exceedingly heavy, its specific gravity being 2.257. It is very volatile, and the vapor is rather pungent. In odor and taste it is more pleasant than wood-spirit, to which it bears some resemblance. Like other ethers, it acts as a diffusible stimulant, but is more powerful than most of them. The immediate heating and exciting effect it produces upon the system is undoubtedly due to the methyle base, but it also produces the physiological effects of iodine, and this we should naturally expect when we consider that iodine constitutes nine-tenths of the weight of the compound. It increases the secretions, especially the salivary and urinary, and it affects the mouth, the gums becoming red and swollen, with a tendency in some instances to bleed. In half an hour after a few have been swallowed, the presence of iodine may be detected in the saliva and in the urine by means of the starch and sulphuric acid test; and, as the iodide of methyle itself does not act with this test, it is evident that it must be rapidly decomposed in the

animal economy, the methyle being separated from the iodine, which no doubt unites with sodium or potassium. I have prescribed it as an internal remedy in some cases where it was desirable to give iodine as a medicine; but, as its stimulating effects are sometimes objectionable, I have directed my attention more to its use as an external remedy, and I have also used it for inhalation. Iodide of methyle unites readily with lard, and in the proportion of half a drachm or a drachm to the ounce it forms a stimulating ointment, which I have tried with advantage as an application to indolent ulcers, more especially those of scrofulous nature. I have also used it in two cases of psoriasis, one of them of syphilitic origin, and in both it assisted, in conjunction with the internal means which were likewise employed, in removing the scaly eruption of the skin. In directing my attention to these ethereal compounds, I was influenced in some measure by a desire to obtain remedies capable by their volatility of being made to act directly upon ulcers of the lungs. I formerly stated, in my report on the 'Progress of Improvement in the Treatment of Consumption,' that we often succeed in arresting this disease without being able to heal the ulcers which have formed in the lungs; that the disease is in consequence apt to regain new activity, and that I considered the discovery of means which would promote the cicatrisation of cavities in these cases of arrested phthisis a desideratum, and a legitimate object of inquiry. Having, therefore, found iodide of methyle useful as an application to external ulcers, I was naturally led to expect that it might prove serviceable when applied to those of the lungs in the way of inhalation. I have used it in cases such as I have alluded to, and in some I think it has been of service. It is, however, too pungent when there is any considerable bronchial irritation; and where this is the case, I have found another compound, which I shall presently describe, more applicable, viz., the iodide of ethyle."

Many of the simplest and most practical therapeutical questions may be said to have received little or no scientific examination. By way of illustration, I may observe, in regard to iodine, that it must vary in its effects according to the base with which it is combined. Iodide of iron, for example, does not seem to have any greater efficacy in the treatment of secondary syphilis than other preparations of iron—certainly not the efficacy of iodide of potassium; therefore we know that the action of iodine must be materially affected by the base with which it is combined. Well directed scientific inquiry should, with the aid of chemistry, throw light on a difference of effect such as this. And it might be a fit subject for the Therapeutical Committee of the Harveian Society to propose for investigation the modifications in the action of iodine from its combination with potassium, sodium, ammonium, and other bases.

In the form of iodide of potassium, it is believed that in most individuals it is eliminated chiefly by the kidneys. My researches

showed me two singular facts in regard to its action when in combination with methyle and ethyle, which seem to prove that its action may be diverted from one to another organ by the base with which it is combined. Whether inhaled or given internally, iodide of methyle quickly affects the mouth, and even causes the gums to bleed; and iodide of ethyle produces a similar but less quick and energetic action on the mouth. Observing these facts, I thought I had discovered compounds of iodine which would prove of superior efficacy in the treatment of syphilis; but on trial, I found them very inferior to iodide of potassium, and I am even doubtful if iodide of ethyle, which I tried in many cases, has any value in this disease.

I may advert to another interesting fact in regard to iodide of ethyle. We all know that, when sulphuric ether—that is, oxide of ethyle—is taken medicinally, it is largely eliminated by the lungs, the breath being strongly impregnated with its odor. When iodine is combined with the ethyle base, and the iodide of ethyle is either given internally or by inhalation, the breath soon acquires a peculiar garlic-like odor, no such effect being produced by iodide of methyle. From these facts I would infer that, the combination of iodine with one base may direct its action to one organ in particular, and with another base to a different organ. Does the combination of iodine with methyle direct the action more particularly to the mouth and gums? the combination with ethyle to the lungs? with potassium to the kidneys? with sodium to the liver? with ammonium to the skin? These, or some of these, are questions on which medical men engaged in the daily business of practice must form opinions from general observation, but they cannot solve them without such experimental researches, aided by chemistry, as they have not the time and opportunity to engage in. Let us, however, hope that the attention now directed to therapeutical investigations will lead to the collection of more definite facts relating to such simple questions, so that we may have not only new remedies, but also more exact knowledge of those we wield in our welfare with disease.—*British Medical Journal.*

Treatment of Syphilis by the Bichromate of Potash.

In a paper read before the Société Imperiale de Chirurgie, Dr. Lcroux advanced the following propositions:

Without wishing to state that this salt is possessed of incontestible antisyphilitic virtues, the author remarked that he had used it in fourteen cases of syphilis, and that in all of them the symptoms had disappeared. There had been some relapse, as is the case in the tratment by mercury. The conditions under which he employed this remedy were, the appearance of secondary manifestations, and absence of anterior treatment. In de-

fault of a sufficient number of cases, Dr. Leroux would restrict its use to those cases in which mercury was inadmissible, or to those in which the organism would not tolerate this mineral.—*L'Union Médicale.*

Bromide of Potassium in Hooping Cough.

Dr. De Beaufort *(Bull. Gen. de Therap.)* uses bromide of potassium, syrup of balsam of Tolu, and an alchoholic preparation of aconite, combined together; and by the aid of those three remedies he has seen this affection cured in twelve days on the average.

Ointment for Prurigo.

Dr. Charvet has found the following a nearly infallible cure for prurigo, after an experience of twenty years:

Axunge, simple or camphorated, - -	60 parts	Mix.
Citrine ointment, - - - - - -	3 "	

A small quantity of this should be spread in a thin layer over the affected surface, and gives almost instantaneous relief. The dilution of the citrine ointment in this preparation prevents the inconvenient and permanent staining of linen which is otherwise caused.—*Bull. Gen. de Thérap., Aug.* 30, 1867, *p.* 180.

Sulphate of Manganese in Chorea.

Dr. Hammond *(N. Y. Med. Gazette)* mentions two cases of chorea treated by him with this remedy after other treatment had failed. One was a girl, fourteen years old; who took five grains three times a day; the other a boy of fifteen, who used the iodinized cod-oil in addition. In the girl, iron had disturbed the head and stomach. The therapeutic action of the two articles is said to be analogous, as they both exist in the blood, which contains, in an adult; 16 grains of iron, and 10.5 of manganese.

Date Stones Passed through an Opening in an Inguinal Hernia. Shown by Mr. T. Smith at the Pathological Society, Tuesday, May 5, 1868.

The child had extreme epispadias and double congenital hernia. A fortnight after swallowing the two stones there was pain on the right side, and a poultice was applied. Suppuration came on, and the stones were passed a month after being swallowed.—*Medical Times and Gazette.*

Cholroform in its Medico-Legal Relations.

We have several times recently adverted to the popular ignorance on the subject of the employment of chloroform for criminal purposes. We therefore take occasion to translate from the last (April) number of the *Prager Vierteljahrschrift für die Praktische Heilkunde*, the following remarks on the subject, compiled from various sources:

"The medical jurist is called upon to give opinions in cases of crime, accident, and suicide. Chloroform is peculiarly adapted to murder. Especially can it be employed in infanticide. Ether does not act so promptly, and is much more uncertain. Latterly, a substance has been discovered in America, which takes away the consciousness with the greatest rapidity, and leaves a persistent obscurity of the memory after its immediate effects pass off. This is keroselene, or keroforme, a product of the distillation of petroleum. It would be particularly adapted to criminal purposes.

"If anæsthesia is produced voluntarily, it approaches more rapidly; if it is opposed, the effects are delayed, and signs of a struggle would be plainly visible. Instances are recorded where anæthesia was produced during sleep by both chloroform (Herrgott) and ether (Bouisson).

"Particular importance is attached to these agents in assaults on females. The expert has here to examine the signs of violence, and also the alleged anæsthesis. The assertions of the plaintiff must be accepted with caution. In 1847 a dentist was condemned in Paris, on the accusation of a young girl that he had deflowered her when under the influence of ether, but was still conscious. It is an important question, *how far the memory can be retained during anæsthesia?* No doubt that when anæsthesia is complete, the memory is wholly inert. But in fact, it disappears even prior to consciousness. A person under chloroform hears, speaks, seems to understand, but when he wakes, has forgotten all that he said or heard. Sedillot says, the memory is often lost after the first few inspirations. The mind usually recurs to those ideas which occupied it immediately before the anæsthetic was taken.

"In respect to the recovery of consciousness, great differences prevail. Generally it is subsequent to the recovery of sensibility. Dreams, during a period of partial anæsthesia, are frequently taken for realities. Thus there is an instance of a woman who maintained that a surgeon had debauched her, while several witnesses had been present all the time.

"Chloroform is often used for self-destruction. But sometimes as much as four ounces have been taken for this purpose without effect.

"The proof of anæsthesia having taken place is attained by three means:

"1. The chemical. The smell of chloroform disappears rapidly.

In about an hour it is lost on clothing, and on a handkerchief in about fifteen minutes. When impure, the scent is more permanent. So the breath soon looses all trace of it. In from two to three hours after administration it is no longer perceptible. To test expired air, about ten litres of it should be caught in a caoutchouc balloon. This should then be forced through a porcelain pipe at red heat into a vessel containing a solution of nitrate of silver. By the addition of nitric acid, the carbonate is set free, and a quantity of chlorine remains, from which the amount of chloroform can be determined. The breath of a woman who had been under chloroform half an hour, showed no trace of it after three hours; the breath of one who had taken it for twenty minutes, gave a distinct reaction after an hour and a half. It remains in the blood only a very short time after administration. After death, its odor is very perceptible in the body, especially in the brain and nervous system.

"2. Symptoms. These disappear so rapidly that they have little forensic value.

"3. Anatomical characters. The characteristics of death by chloroform, are pallor of the countenance, dilatation of the pupils, rose-colored spots on the extremities, slight cyanosis, injected base of the tongue, congestion of lungs, emphysema, soft heart, slightly injected pia mater."—*Medical and Surgical Reporter.*

MEDICAL NEWS AND MISCELLANEOUS.

Messrs. Editors: The ensuing extracts which I have taken from a recent letter of Prof. Orthonaux, dated Roslyn, N. Y., and addressed to the editor of the Medical Record, may not be wanting in interest to your readers.

As we have drawn very copiously from the letter in question, we will content ourself with simply requesting you to give a place to the same, in the columns of your Journal, at its next appearance.

There are other important subjects, bearing upon the relationship subsisting between the Apothecary and Physician, that might here have been discussed, and which we may undertake at some future day. In the meantime, however, it would be gratifying to know how others of the profession view this matter.

Very respectfully, yours,

C. H. TEBAULT, M. D.,

New Orleans, La., September 22, 1868.

"*What is a Prescription?*

"COUNSEL or advice, as given by a physician or lawyer, is, in the language of political economists, an immaterial product,

which is consumed in its very production. Whether reduced to writing or not, it is the property of its author, and its usufruct may be sold to any one, though the right of property in the thing itself is not there dissevered from its original author. Now a prescription is professional advice in the nature of an order for the compounding of certain drugs intended to be used under specific conditions, and these only, viz: First, as to time; second, as to individuals. And in order to guarantee the good faith of the prescriber, it should bear his name. The specific conditions above recited for an implied contract between the physician and patient, consisting of two elements; first, that the prescription exhibits ordinary skill in its composition; and, second, that it is according to the best judgment of the physician, suited to the necessities of a particular patient at a particular time. The unities of skill, present or contingent pathological necessity, coupled to individual wants, must all reveal themselves in the prescriptions. For, unless without a date, or without a patients name, no prescription implies universality of use, or illimitability of time.

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"In the majority of instances, as all will testify, no signature is appended to a prescription, for let it be remembered that initials do not constitute a legal signature. Here is the first and fatal omission. Next, a date is rarely appended to a prescription, although, no one would pretend that any prescription, however good to-day, is applicable to all time or circumstances, irrespective of a renewal by the physician after investigation of the patient's condition. And, lastly, the patient's name is not usually stated in it, thus omitting the most important evidence of its having been issued in favor of a particular person. * * *

"Under these circumstances, therefore, and since prescriptions are so often signed by initials alone, which are equivalent to no signature, without date, which limits them to no time, and without name of person, which restricts them to no individual in particular, why blame a druggist for renewing a prescription, or, even originally compounding it, since he may never have seen the prescription before and cannot be presumed to know that it had previously been compounded? Why blame him exclusively?

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"In order to promote such a reform, let our stationers publish for the use of physicians, blank-books, like check-books, printed in some such form as this:

Prescription No. —— For Mr. ..... Dated ..... 186...	Prescription No. ——, N. Y., ... 186... For Mr. ..... R .... R. Galen, M. D.,
Renewed ..... do ..... do ..... do	Renewable.....186... do .....186... do .....186...

* * * * * * * *

"The Apothecary being responsible for want of skill in his art, as well as the physician, should exercise equal caution in compounding as the latter is required to do in prescribing drugs. Hence it is not only proper, but his duty also to keep a copy of every prescription, with date and name of physician and patient; or, if he will not do this, then some law should be passed requiring Apothecaries to keep a cancelling stamp to be struck upon every prescription compounded by them under a penalty for each omission. This stamp, like those used in postoffices, might be of any form (or writing might be used alone), and contain name of apothecary and date of compounding, and without mutilating or defacing a prescription, would thus simply record upon it two important facts in its history. The same law should contain a second clause, forbidding any Apothecary to renew a prescription once cancelled without a fresh signature from the physician originally issuing it. Now, if the physician thinks the patient may need the same prescription a second time, let him fill out the blank space headed, "renewable"—with either the words "at pleasure of Mr. ———, and upon his order"—thus throwing the future responsibility for its use upon the patient, or, limit the renewal to some particular date, as in the first issue. But where, as is now so commonly the case, the physician neither signs his name nor affixes any date or the name of any patient to his prescription—there seems to be no valid reason why the Apothecary should not renew it just as often as it is called for.

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"If the Physician's name be not attached to it, it is not his property, for he can claim no exclusive property in drugs, but only in the formula, which he has designed for a particular occasion. And if he does not patent it, as no respectable physician will, and as no respectable government should permit, then he cannot legally prevent any one from using it, who simply uses the prescription without his name.

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"In conclusion, and to add some legal artillery to this army of suggestions, I would recommend that our State Medical Society request of the next Legislature the passage of some such act as the following, viz:

"*Be it enacted, etc., etc.,* 1. No Apothecary, Druggist, or retailer of Medicines shall compound any written prescription unless it be signed with the full name and address of the person writing the same, under a penalty of ——— dollars for each and every violation of this prohibition.

2. "Every Apothecary, Druggist or retailer of Medicines, who shall compound any written prescription, shall, immediately thereafter, and on the same day, write or stamp on said prescription in legible characters, the date of each compounding, together with his own name and place of business, under a penalty of ——— dollars for each and every omission so to do.

3. "Any apothecary, druggist or retailer of medicines, who

shall compound a written prescription, bearing upon its face the certificate of an apothecary showing the same to have been already compounded, and without a renewal of said prescription by the person originally writing the same, duly expressed by a fresh signature and date, shall be chargeable with a misdemeanor, and, on conviction thereof, shall be subject to a fine of fifty dollars for each and every offence so committed.

4. "All fines and penalties incurred under this act may be recorded in a Justices' Court, one-half to go to the informer and one-half to the overseer of the poor of the county in which such conviction shall be had."

WE quote the following items of news from a letter of Dr. J. C Nott of New York City, under date of September 17th, ult.

"We shall have a new impetus to Gynecology in New York, Dr. J. Marion Sims arrived two days ago and told me he was in search of an office and should make New York his future home.'.

Pirigoff not Dead.

THE *Berliner Klinische Wochenschrift*, which some weeks ago confirmed the report of Pirigoff's death, announces the deaths of two distinguished Russian surgeons—viz., the Inspector-General and Member of the Privy Council, Peter Alexandrowitsch Dubowitzky, whose influence on medical education in Russia was immense, and the renowned Prof. Szegmanowsky, one of the most celebrated surgeons of Russia, who died on April 13 (25) at Kiew. At the same time, the Journal says that the rumor which has gone through the press of Europe, medical and non-medical, concerning the death of Prof. Pirigoff is happily not true, the distinguished surgeon still living at his country seat, new Kiew. *Medical Times and Gazette.*

Mental and Manual Labor.

PROFESSOR HOUGHTON, of Trinity College, Dublin, has published some curious chemical computations respecting the relative amounts of physical exhaustion produced by mental and manual labor. According to these chemical estimates, two hours of severe mental study abstract from the human system as much vital strength as is taken from it by an entire day of mere hand work. This fact, which seems to rest upon strictly scientific laws, shows that the men who do brain work should be careful, first, not to overtask themselves by continuous exertion; and, secondly, that

they should not omit to take physical exertion, on a portion of each day, sufficient to restore the equilibrium between the nervous and the muscular system.—*Med. and Surg. Reporter.*

Testimonial to Dr. Richardson, F. R. S.

A MEETING is announced for Wednesday, the 20th, at Willis's Rooms, at half-past two o'clock, for the purpose of presenting a testimonial to the above-named physician and physiologist, subscribed to by over six hundred Medical men and men of science in all parts of the world, and amounting to the value of more than a thousand guineas. This recognition is looked on in Medical circles as one of which there is no similar history. Jenner, it is true, received two grants of larger value, but they were from the State, and were given only after great contention; in the present case, although the award is pecuniarily less, the actual value of it is even greater, as it emanates solely from men every one of whom is, so to speak, a professional judge of true scientific worth. Mr. Paget, F. R. S., Surgeon to her Majesty, will preside on the occasion of the presentation.—*Medical Times and Gazette.*

Long Island College Hospital.

PROFS. AUSTIN FLINT, Senior and Junior, and Foster Swift, have resigned their respective chairs in this Institution.—*Medical Record*, July 15, 1868.

Medical College of the State of South Carolina.

SINCE the publication of the annual circular of this school, Professors Miles and Chisolm have resigned from the chairs which they respectively occupied. Professor R. A. Kinlock has been transferred to the Chair of Surgery, made vacant by the resignation of Professor Chisolm; Dr. George E. Trescott has been elected to the Chair of Materia Medica and Therapeutics, in the place of Professor Kinlock, transferred, and Dr. Middleton Michel has been elected to the Chair of General Anatomy and Physiology, vacated by the resignation of Professor Miles.—*Medical News and Library.*

Prof. Miles has since been elected to the Chair of Anatomy and Physiology in the Medical Department of the Washington University, located in Baltimore, M. D., and Prof. Chisolm to that of Military Surgery and Surgical Pathology in the Medical Department of the University of Maryland, in the same city. The two last named institutions are to be congratulated upon the acquisition of such distinguished and popular lecturers to their Faculty.

EDITORIAL AND MISCELLANEOUS.

To our Patrons.

We take occasion, in closing Vol. I of the New Orleans Journal of Medicine, to return our sincere thanks to the Profession at large, and to our exchanges, for the very flattering reception which they have been pleased to extend to our efforts, and we hope that nothing in the future will occur to mar the very pleasant and satisfactory relations now existing.

In order that the Journal may be placed on a basis similar in price to the only other Quarterlies published in this country, it has been determined to reduce the annual subscription from six to five dollars, commencing with the January, 1869, issue,—but in order that this arrangement may prove mutually satisfactory and advantageous, it has been found necessary to abolish entirely the credit system,—hereafter the terms will be invariably in advance,

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It affords us pleasure to announce that arrangements have been perfected with Dr. Alfred L. Carroll, editor and proprietor of the New York Medical Gazette, by which our subscribers can obtain through us an excellent weekly medical Journal, at the reduced price of two dollars per annum, in advance.

The Gazette is a royal octavo, of not less than sixteen pages each issue, is published weekly, and will always endeavor to place before its readers all matter of interest pertaining to Medicine and its collateral branches. The regular subscription price when not in commutation is three and a half dollars in advance.

Change in Commutation.

The attention of subscribers is called to the fact, that at the request of the editor and proprietor, all commutations with the Richmond and Louisville Medical Journal cease from this date. We should be pleased, however, at any time, to forward for those who desire it, the regular subscription price, $5.

More New Journals.

It affords us much pleasure to add to our exchange list, two new Medical Journals, the first numbers of which we have received—viz.: The Dominion Medical Journal, Toronto, Ontario, Canada, and The California Medical Gazette, San Francisco, Cal. Both are ably edited, and we wish them every success.

We beg leave to apologize to Prof. E. S. Gaillard, of the Richmond and Louisville Med. Journal, for a rather unfortunate typographical error, whereby in the July issue of this Journal, in his article, page 642, line 12, "devitalization" was made to read "dentalization."

Another Medical Journal.

We are in receipt of a prospectus under date of July 1st, 1868, of the Baltimore (Md.) Medical Journal of Medicine and Surgery, the first number of which will be issued on October 1st.

The Journal is to be a monthly of not less than 64 pages, and is to be edited by Profs. Edward Warren, M. D., and C. W. Chaneellor, M. D. The terms will be $3 per annum, invariably in advance.

We have received from Mr. George Mead, Racine, Wisconsin, a speeimen of the Craig microscope. It is a eompaet, pretty, and simple little instrument, and is sold at the low priee (mailed free of charge) of $2 75. As it magnifies suffieiently for many of the praetieal purposes of a physieian, we do not think we ean recommend it too highly to those of our subscribers who wish a mieroseope. It is very easy of adjustment, and magnifies between 80 and 100 diameters.

Communications Received.

We acknowledge the receipt of communications from the following gentlemen:

Dr. Alex. P. Hall, Mobile, Ala.; Dr. W. H. Fort, Jefferson City, La.; Dr. J. H. Murfre, Tusealoosa, Ala.; Dr. J. D. Osborn, Greensboro, Ala.; Dr. Jos. R. Smith, Elyton, Ala.; Dr. A. F. MeLain, New Orleans, La.; Dr. W. A. MeCamby, Galveston, Texas; Dr. U. R. Milner, Jefferson City, La.; Dr. Jas. S. Washington, Indian Bay, Ark.; Dr. Franklin Hart, Tarboro, North Carolina; Dr. Jno. Steinbaek Wilson, Cypress, Texas.

Errata.

Page 667, fifth line—"Vibices freely over the mouth and nose," should read—"Vibices freely over the body, and hæmorrhage from mouth and nose."

Ramie.

We invite the attention of our medieal friends throughout the country to this wonderful plant. Our confreres, who are immediately interested in the agricultural interests of the South, are requested to use their influenee among the planters, in promoting the trial and introduction of this new textile, which seems from the practical experience of two years to be admirably adapted to

our climate and soil, and to be, really, the long-sought substitute for Cotton. The Ramie plant is so prolific, easily cultivated, and in all respects so well adapted to the change in our labor system, that its cultivation is much easier, and return more certain by far, than the *ci-devant* great Southern staple. It is not necessary for immediate pecuniary return, to do more than to take off, dry, and bale *the rough bark*, which is removable with great facility from the fragile stems. Such dried bark is bought here by the agent, or in England, at ten cents per pound, and an acre will yield three thousand pounds. The permanency of the plant is remarkable; it springs from rattoons, and will last for years, without replanting; — indeed, it is almost ineradicable when it once fairly takes possession of the soil, and entirely kills out grass and weeds. The clean silky fabric sells in any quantity at sixty cents per pound in England. For particulars or pamphlets, address the agent, J. Bruckner, No. 104 Gravier street, New Orleans, La.

Health of the City.

THROUGH the courtesy of Dr. George W. Dirmeyer. Secretary of the Board of Health, we are enabled to present to our readers the first semi-annual mortuary report of this year, and also the monthly reports for July, August, and September.

The most prominent features of these reports are the entire absence of deaths from epidemic diseases, and the low rate of mortality from all causes. The healthfulness of the city has indeed been unprecedented, since the end of last year's epidemic. During the present season there has been less than the usual amount of sickness from malarial causes, although we learn that malarial diseases have been remarkably prevalent in the surrounding country, far and wide. Sunstroke, which has numbered so many victims in the Northern cities, is here accredited with only 2 deaths. Our city has also enjoyed a remarkable immunity from cholera infantum, in comparison with the Northern cities, but we are always less afflicted with this scourge. Trismus nascentium, which is generally so common a malady, has been less than usually prevalent during the summer months.

Last year the total number of deaths was 10,096, of which 3,107 were attributed to yellow fever, leaving 7,989 due to other causes. During the first half of the present year the number was 2,508, and it will be seen that the summer months exhibit no greatly increased mortality. Should the death-rate not experience an acceleration before the close of the year, we shall probably witness a mortality litttle exceeding 5000 for the whcle year, about half that of last year, or five-eighths, excluding the extraordinary results of the epidemic. Another point worthy of noticc is the number of people dying at a very advanced age. We are sure that New York cannot show as many examples of longevity, and doubt whether the vast population of London furnishes a parallel.—S. S. H.

SEMI-ANNUAL *Report of Deaths in the City of New Orleans, from 6 o'clock, A. M., on the 1st day of January, to 6 o'clock, A. M., on the 1st day of July,* 1868.

DISEASES.	
Abscess	1
" of Liver	2
" of Lungs	1
" of Brain	2
Albuminuria	5
Aneurism of Aorta	2
Anæmia	11
Angina	2
Asthenia	1
Atrophia	1
Apoplexy	22
Asthma	6
Bronchitis	33
Bowel Disease	1
Burns or Scalds	10
Bright's Disease	10
Brain "	2
Cancer	12
" of Breast	4
" of Stomach	5
" of Womb	12
" of Jaw	2
" of Liver	1
" of Rectum	1
Cancrum Oris	1
Catarrh	11
" of Bladder	1
Cholera	100
" Infantum	74
" Morbus	17
Cholerine	1
Cirrhosis of Liver	10
Colic	2
" Bilious	2
Compression of the Brain	2
Concussion of the Brain	1
" of the Spinal Cord	1
Congestion of the Bowels	4
" of the Brain	48
" of the Liver	2
" of the Lungs	7
Consumption	323
Convulsions	17
" Adult	1
" Infantile	134
" Puerperal	7
Croup	23
Debility	39
" Adult	1
" Infantile	16
Delirium Tremens	8
Diarrhœa	35
" Acute	2
" Chronic	17

DISEASES.	
Dropsy	27
" in the Abdomen	3
" of Brain	14
" in the Chest	2
" of Heart	3
Disease of the Ear	1
Drowned	26
Dysentery	59
" Acute	5
" Chronic	26
Diphtheria	8
Empyemia	2
Enlargement of Liver	2
Epilepsy	5
Entero-Colitis	17
Erysipelas	1
Fever	4
" Bilious	5
" Congestive	35
" Pernicious	15
Intermittent	6
" Brain	13
" Nervous	3
" Puerperal	4
" Remittent	12
" Scarlet	15
" Scarlet, Malignant	2
" Typhoid	20
" Typhus	1
" Yellow	2
Fracture	1
" of Skull	3
" of Leg	1
Gangrene	4
" Senile	1
Gastro Enteritis	59
Gout	2
Hæmorrhage	1
" from Lungs	6
" from Navel	3
" from Stomach	3
" from Womb	3
Heart, Disease of	45
" " Valvular	7
" Enlargement of	1
" Aneurism of	1
Hydrophobia	2
Hernia	6
Hysteria	1
Imperforate Anus	3
Inflammation of the Bowels	14
" of the Brain	11
" of the Chest	1
" of the Heart	2

Semi-Annual Report of Deaths—Continued.

DISEASES.		DISEASES.	
Inflammation of the Kidneys	2	Rheumatism	6
" of the Liver	16	" of the Stomach	1
" of the Lungs	1	Scrofula	4
" of the Stomach	2	Scurvy	1
" of the throat	2	Small-pox	4
" of the Womb	1	Softening of the Brain	11
Inanition	10	" of the Stomach	1
Injuries	5	Spine Cleft	1
Insanity	1	Stillborn	234
Intemperance	8	Syphilis	4
Intussuspection of Intestines	1	" Tertiary	2
Jaundice	1	Strangulated Hernia	1
Kidneys, Disease of	2	Suffocation	1
" Fatty Degeneration	1	Suicide	11
Killed Accidentally	11	Stomach Disease	1
Labor, Difficult	1	Teething	31
Laryngitis	4	Tris Nascentium	106
Lockjaw	19	Tumor of Breast	1
Malformation	1	" of Womb	2
Marasmus, Adult	12	" of Brain	1
" Infantile	64	Tabes Mesenterica	8
Meningitis	30	Thrush	4
" Cerebro Spinal	1	Ulceration	1
Old Age	32	" of the Stomach	1
Paralysis	7	" of the Bowels	1
Peritonitis	7	" of the Leg	1
Pericarditis	4	" of the Throat	1
Pneumonia	140	Unknown	32
" Pleuro	11	Urine, Infiltration of	1
" Typhoid	7	Womb Disease	1
Poison	3	Worms	2
Premature Birth	16	Wounds	10
Pyemia	1	" Gunshot	4
Purulent Absorption	1	Not stated	16
Purpura	2		
Rickets	2	TOTAL	2508

Males.....1352. Females.....1068. Not Stated.....88. Total...2508.

White...1658. Blacks...538. Mulattoes...224. Not Stated...88. Total...2508.

AGES.

Under 1 year	844	20 to 25 "	109	80 to 90 "	31
1 to 2 years	206	25 to 30 "	119	90 to 100 "	8
2 to 5 "	118	30 to 40 "	271	100 and upwards	7
5 to 10 "	50	40 to 50 "	208	Unknown	45
10 to 15 "	48	50 to 60 "	201		
15 to 20 "	57	60 to 70 "	111	TOTAL	2508
		70 to 80 "	75		

Africa	3	France	94	Portugal	1
Austria	3	Germany	122	Prussia	15
British America	1	Holland	2	Scotland	7
Belgium	5	Ireland	209	Spain	11
Canada	2	Italy	1	Switzerland	9
China	1	Madeira	7	United States	1521
Denmark	3	Mexico	6	West Indies	16
England	17	Poland	1	Not Stated	439
		TOTAL	2508		

Monthly Report of Deaths, from 1st July to 1st August, 1868.

DISEASES.		DISEASES.	
Abscess	1	Gangrene Senile	1
.. of Liver	2	Gastro Enteritis	9
Aneurism of Aorta	2	Hæmorrhage	1
Anæmia		.. from Lungs	2
Angina	1	.. from Bowels	1
Apoplexy	9	.. from Stomach	1
Asthma	2	.. from Womb	1
Bronchitis	4	Heart, Disease of	9
Brain Disease	1	.. Aneurism	1
Cancer	2	Inflamation of the Bladder	3
.. of Breast	1	.. of the Bowels	6
.. of Stomach	4	.. of the Brain	1
.. of Face	1	.. of the Liver	2
Cholera Infantum	8	.. of the Stomach	1
.. Morbus	2	Intemperance	1
Cirrhosis of Liver	1	Intussuspection of Intestines	1
Congestion of the Brain	7	Killed Accidently	1
Consumption	54	Liver, Disease of	1
Convulsions	4	Lockjaw	5
.. Infantile	12	Marasmus, Adult	2
Debility	8	.. Infantile	11
.. Adult	1	Meningitis	11
.. Infantile	5	.. Cerebro Spinal	2
Diarrhœa	6	Old Age	3
.. Acute	1	Paralysis	1
.. Chronic	9	Peritonitis	2
Dropsy	7	Pericarditis	1
.. in the Abdomen	2	Pleurisy	2
.. of Brain	3	Pneumonia	15
Diabetes	1	.. Pleuro	1
Drowned	4	Premature Birth	4
Dysentery	17	Rheumatism	2
.. Acute	1	Scrofula	1
.. Chronic	6	Small-pox	6
Diphtheria	1	Softening of the Brain	2
Entero-Colitis	4	Stillborn	33
Fever	2	Syphilis	1
.. Congestive	14	Suicide	3
.. Pernicious	9	Sun Stroke	1
.. Intermittent	1	Teething	8
.. Brain	6	Tris Nascentium	10
.. Nervous	1	Ulceration of the Bowels	1
.. Puerperal	2	Worms	1
.. Remittent	5	Wounds, Gunshot,	3
.. Scarlet	2	Not stated	8
.. Typhoid	6		
.. Yellow	1	TOTAL	423
Fracture of Spine	3		

Males.....229. Females.....180 Not Stated.....14. Total.....423.

White...271. Blacks...93. Mulattoes...39. Not Stated...20. Total...423.

Report for Month of July—Continued.

AGES.

Under 1 year	117	25 to 30 years	21	90 to 100 years	1
1 to 2 years	34	30 to 40 "	49	100 and upwards	2
2 to 5 "	21	40 to 50 "	40	Unknown	9
5 to 10 "	11	50 to 60 "	32		
10 to 15 "	7	60 to 70 "	29	TOTAL	423
15 to 20 "	11	70 to 80 "	11		
20 to 25 "	25	80 to 90 "	3		

NATIVITIES.

Austria	2	Germany	32	Spain	2
British America	2	Ireland	30	Switzerland	1
Canada	1	Italy	3	United States	249
China	1	Mexico	2	West Indies	3
England	2	Portugal	1	Not Stated	67
France	24	Prussia	1		

Total.....423.

Report of Deaths from 1st August to 1st September, 1868.

DISEASES.		DISEASES.	
Abscess	1	Dropsy	2
Amputation	1	Drowned	11
Aneurism	1	Dysentery	19
Anæmia	1	" Acute	1
Apoplexy	7	" Chronic	9
Asthma	2	Diphtheria	2
Bronchitis	3	Epilepsy	1
Burns or Scalds	1	Erysipelas	1
Bright's Disease	1	Fever, Billious	3
Cancer	1	" Congestive	24
" of Face	1	" Pern cious	4
Carbuncle	1	" Intermittent	6
Catarrh	1	" Brain	4
Cholera	2	" Nervous	1
" Infantum	4	" Puerperal	2
" Morbus	2	" Remittent	8
Cirrhosis of Liver	2	Scarlet	4
" of the Brain	9	Typhoid	11
" of the Lungs	1	Fracture of Spine	1
Consumption	51	Gangrene of Stomach	1
Convulsions	8	" of Mouth	1
" Adult	1	Gastro Enieritis	10
" Infantile	7	Hæmorrhage	2
" Puerperal	1	" from Stomach	1
Cyanosis	1	Heart, Disease of	9
Croup	3	Hooping Cough	1
Debility	9	Inflamation of the Bowels	8
" Adult	1	" of the Liver	2
" Infantile	2	" of the Stomach	2
Delirium Tremens	1	Inanition	1
Diarrhœa	5	Jaundice	1
" Chronic	9	Kidneys, Disease of	1

Report for Month of August—Continued.

DISEASES.		DISEASES.	
Kidneys Supuration of	2	Small-pox	2
Labor, Difficult	1	Softening of the Brain	1
Lungs, Disease of	1	Stillborn	49
Liver, Disease of	2	Syphilis	2
Lockjaw	6	Suicide	1
Marasmus, Adult	1	Sun Stroke	1
" Infantile	17	Teething	4
Meningitis	4	Tris Nascentium	18
Obstruction of Intestines	1	Thrush	1
Old Age	6	Tabes Mesenterica	2
Paralysis	3	Unknown	6
Pericarditis	1	Wounds, Gunshot	1
Pneumonia	13	Not stated	6
" Pleuro	2		
" Typhoid	1	TOTAL	452
Premature Birth	8		

Males	Females	Not Stated	Total
243.	191.	18.	452.

White	Blacks	Mulattoes	Not Stated	Total
502.	95.	40.	15.	452.

AGES.

Under 1 year	133	20 to 25 years	23	70 to 80 years	11
1 to 2 years	27	25 to 30 "	24	80 to 90 "	6
2 to 5 "	20	30 to 40 "	52	90 to 100 "	1
5 to 10 "	10	40 to 50 "	43	100 and upwards	1
10 to 15 "	13	50 to 60 "	40	Unknown	12
15 to 20 "	14	60 to 70 "	22		
				TOTAL	452

NATIVITIES.

Canada	1	Portugal	1	Unknown	3
England	8	Prussia	5	Wales	1
France	12	Scotland	2	West Indies	4
Germany	37	Spain	5	Not Stated	59
Ireland	34	Sweden	1		
Italy	2	Switzerland	1	TOTAL	452
Mexico	1	United States	257		

Report of Deaths from 1st September to 1st October, 1868.

DISEASES.

Abscess of Liver	3	Cholera Infantum	4
Anæmia	2	Cirrhosis of Liver	2
Asthenia		Concussion of the Brain	1
Apoplexy	1	Congestion of the Bowels	1
Asthma	3	" of the Brain	18
Bronchitis	12	" of the Lungs	2
Bright's Disease	1	Consumption	46
Cancer	3	Convulsions	
" of Breast	1	" Infantile	2
" of Stomach	1	" Puerperal	
" of Womb	1	Croup	
" of Tongue	1	Debility	
Carbuncle	1	" Adult	

Report of Deaths for September—Continued.

DISEASES.

Debility, Infantile	1	Inflamation of the Lungs	3
Delirium Tremens	1	.. of the Stomach	1
Diarrhœa	2	Inanition	1
.. Chronic	12	Jaundice	1
Dropsy	3	Killed Accidentally	1
.. in the Abdomen	2	Lepra	1
.. of Brain	2	Liver, Disease of	2
Diabetes Mellitus	1	Lockjaw	1
Disease of Brain	1	Marasmus, Adult	2
Drowned	8	.. Infantile	7
Dysentery	11	Meningitis	6
.. Acute	1	Old Age	1
.. Chronic	4	Paralysis	3
Diphtheria	2	Peritonitis	2
Emphysema	1	.. Puerperal	1
Fever	2	Pleurisy	1
.. Billious	4	Pneumonia	13
.. Congestive	22	.. Pleuro	1
.. Pernicious	23	Premature Birth	12
.. Intermittent	5	Pyemia	1
.. Brain	5	Purpura	1
.. Nervous	4	Rheumatism	1
.. Puerperal	2	Stricture of Rectum	1
.. Remittent	7	Softening of the Brain	
.. Scarlet	3	Stillborn	35
.. Hectic		Syphilis	2
.. Typhoid	15	Strangulated Hernia	1
.. Typhus	1	Suicide	2
Fracture of Knee Joint	1	Stomatitis	2
Gastro Enteritis	5	Teething	5
Gastralgia	1	Tris Nascentium	32
Hæmorrhage	1	Tumor	1
.. from Lungs	1	.. Ovarian	1
.. from Nose	1	Tabes Mesenterica	1
.. from Bowels	1	Ulceration of the Bowels	1
.. from Brain	1	Unknown	12
.. from Stomach	2	Varioloid	1
Heart, Disease of	8	Wounds	1
Hydrophobia	1	.. Gunshot	4
Inflamation of the Bowels	5	Not stated	2
.. of the Brain	4		
.. of the Heart	1	TOTAL	498
.. of the Liver	3		

Males.....272. Females.....208. Not stated.....18. Total.....498.

White...347. Blacks...84. Mulattoes...45. Not stated...22. Total...498.

AGES.

Under 1 year	158	20 to 25 "	21	70 to 80 "	12
1 to 2 years	25	25 to 30 "	27	80 to 90 "	5
2 to 4 "	24	30 to 40 "	53	90 to 100 "	1
5 to 10 "	12	40 to 50 "	45	Unknown	15
10 to 15 "	15	50 to 60 "	44		
15 to 20 "	9	60 to 70 "	35	TOTAL	498

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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A most excellent and complete work, and one which we highly recommend to all students of Diseases of the Eye.

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Science and Practice of Medicine: By Wm. Aitken, M. D., etc., Edinburgh; second American from fifth enlarged and carefully revised London edition, with large editions by Meredith Clymer, M. D., etc.; two vols (vol. 1 received). Lindsay & Blakiston, Philadelphia. 1868. Jas. Gresham, New Orleans.

We have received the Physician's Hand Book for 1869, from Messrs. Lindsay & Blakiston, Philadelphia, and from Messrs. W. A. Townsend & Adams, New York.

Although differing in general style and arrangement, both are excellent, and admit of no criticism. It seems to us, however, that whilst the former is best adapted to the wants of the city

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