MARYLAND
MEDICAL JOURNAL
A WEEKLY JOURNAL OF
MEDICINE AND SURGERY

VOLUME XXXVI. NO. 17
WHOLE NO. 828

BALTIMORE, FEBRUARY 6, 1897.

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10 cts. A COPY

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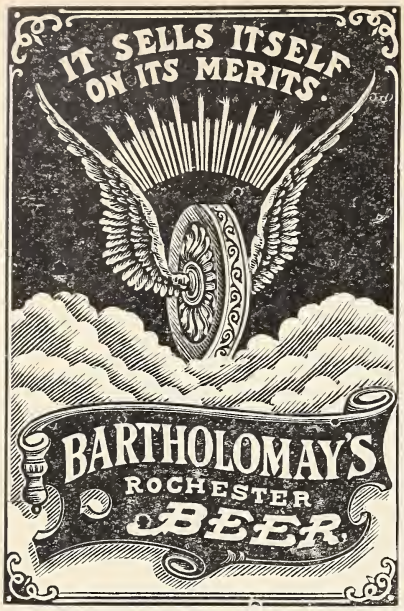

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MARYLAND
MEDICAL JOURNAL

A Weekly Journal of Medicine and Surgery.

Vol. XXXVI.—No. 17. BALTIMORE, FEBRUARY 6, 1897. Whole No. 828

Original Articles.

WHY IS ANTITOXINE A BONE OF CONTENTION IN THE THERAPEUTICS OF DIPHTHERIA?

By Augustus E. Bieser, M. D.,
New York.

READ BEFORE THE NEW YORK MEDICO-SURGICAL SOCIETY, MEETING HELD AT THE MADISON AVENUE HOTEL, NEW YORK CITY, MONDAY, DECEMBER 7, 1896.

This topic of the antitoxine treatment of diphtheria recalls many topics in medicine in which partisans have disagreed, either through carelessness in observation or enthusiasm based upon a limited number of cases. To say that antitoxine is the best remedy for diphtheria today, without specifying the kind of diphtheria, is to make antitoxine encroach upon fields where it does not belong and places the medical profession in a false light before the world. A scientific classification of diphtheria would be the following :

1. True diphtheria, subdivided into—

(A) Pure or simple diphtheria caused by the action of the Klebs-Löffler bacillus and its toxine.

(B) Mixed or associated diphtheria, caused by —

(*a*) The association with the Klebs-Löffler bacillus of the small coccus (Brisou).

(*b*) The association with the Klebs-Löffler bacillus of staphylococci.

(*c*) The association with the Klebs-Löffler bacillus of streptococci.

2. Pseudo-diphtheria, including all those cases of false membrane in the throat, resembling diphtheria, caused by streptococci and stapylococci.

Not only do these varieties of diphtheria differ bacteriologically, but also as to the effect they produce upon the organism. In simple diphtheria the Klebs-Löffler bacilli as a rule remain localized at or near the site of invasion in or upon the mucous membrane and its lymphatic connections and send their toxines into the circulation. Rarely do the bacilli themselves enter distant viscera, although it is possible for them to do so.

In mixed diphtheria it is the rule rather than the exception for the streptococci and staphylococci which accompany the Klebs-Löffler bacilli in the causation of the disease to get into the circulation and the viscera, into the lungs, spleen, kidneys, etc., where being left undisturbed they may lie dormant and elicit no symptoms referable to these organs, or being stirred up to pernicious activity by the attracting influences of antitoxine, for example, may cause havoc in each local sphere, as the case may be.

In false diphtheria, with which this paper has properly speaking nothing to do, the germs also get into the blood and viscera. Ever since I have used antitoxine in diphtheria as met with in tenement practice (and a very large percentage of such diphtheria constitutes

mixed infection) I have had to treat the kidneys and lungs more often than I should have wished. What is the explanation? Might it not be that the antitoxine being carried to the kidneys attracts the streptococci present there and acting as a favorable nidus for their development causes nephritis?

Furthermore, being carried to the lungs and attracting the germs present there, might its injection not explain the pseudo-malarial temperature curves that mark the course of a subacute or chronic pneumonia? Then if the patient has a constitution strong enough to run the gauntlet of both the diphtheritic toxine and the antitoxine it may very well happen that he will succumb to heart failure from pulmonary edema. It is right here in mixed infection as met with in tenement practice, in which the bacteriological examinations, at least as regards the presence of Klebs-Löffler bacilli, are very often negative.

It is just here in this variety of diphtheria in which antitoxine does not seem to be able to hold its own, but on the contrary seems to be losing former adherents. It is just here in this visceral diphtheria as compared with the superficial diphtheria, cases which are diphtheritic in every respect except in the presence of the Klebs-Löffler bacillus, that antitoxine furnishes the bone of contention in the treatment of the disease.

The term "visceral diphtheria" here needs some qualification. It is visceral in the sense that the viscera are affected; diphtheritic in the sense that a false membrane is present in the throat. I do not deny antitoxine's efficacy in simple Klebs-Löffler diphtheria, and especially in the laryngeal type of the disease. There is too much testimony in its favor by the most eminent intubators of Europe and America as to its value in the laryngeal form for me to attempt denial. It is effectual here because all it has to do after the tube has removed the stenosis is to neutralize the toxine generated into the blood; this neutralization seems to be accomplished perfectly in simple diphtheria by the antitoxine. What I object to is the indiscriminate employment of the remedy in every case, irrespective of what the patient's condition may be; irrespective of what the nature of his vital functions, and especially the function of secretion and excretion, may be.

For example, I would not inject antitoxine when there was any marked renal insufficiency; marked renal insufficiency in a case of diphtheria would, to my mind, indicate that I probably had mixed diphtheria with streptococci probably present in the kidneys causing the disturbance of the kidney function to deal with. Here I would feel that I hampered the vital function of urinary secretion and excretion by injecting antitoxine.

It has been my experience, which coincides with that of other physicians, that 95 per cent. of tonsillar or naso-pharyngeal diphtherias get well, it being the laryngeal cases that swell the mortality. Of 26 cases of tonsillar or naso-pharyngeal diphtheria treated by me this year without antitoxine, Klebs-Löffler bacilli being present in 10 of them, all recovered. Of 14 cases treated with antitoxine, one died. But, say the antitoxine advocates, it is in laryngeal diphtheria of the most fatal form of the disease that antitoxine does so well. Granted, in simple diphtheria of the larynx, but is it so efficacious a remedy in cases of secondary involvement of the larynx by false membrane in mixed diphtheria?

In simple diphtheria of the larynx we must remember that after the immediate danger (suffocation) has been removed we have practically only the toxine discharge into the blood from the mucous membrane to fight; this toxine, it appears, can be pretty effectually neutralized by the antitoxine, giving intubators who have mostly pure laryngeal diphtheria to deal with a splendid intubation record. But how does the matter stand with those unfortunates who have mostly laryngeal diphtheria of a mixed type to deal with, when very often the health board reports as regards the presence of Klebs-Löffler bacilli are negative? Such intubators

show the bad effects of antitoxine in their records.

To the uninitiated an appeal to statistics carries with it the idea of mathematical accuracy, perfect certainty and an assurance against fraud or misrepresentation; but the initiated know that statistics are either perfectly reliable or absolutely misleading in accordance with the method of their preparation. From May, 1895, to date, I have had 14 operative cases, including 3 pseudo-diphtherias to report treated without antitoxine, with 5 recoveries, mortality 64.2 per cent.; 7 operatives cases treated with antitoxine (given in four instances on the first and second days) with 72 per cent. mortality, 2 cases only recovering. Excluding the false diphtherias (measles, scarlet fever, influenza) from the first list, making the character of the cases similar in both lists, I get $45\frac{5}{9}$ per cent. recovery without and $28\frac{2}{7}$ per cent. recovery with antitoxine.

If antitoxine under the worst possible conditions shows more favorable results than any other plan of treatment, measured by the same conditions, or better yet, when antitoxine thus handicapped compares favorably with any other plan of treatment, it is entitled to be called the remedy *par excellence* in diphtheria; otherwise not.

If antitoxine is placed under the disadvantages which confront, for example, the stimulating and supporting treatment of diphtheria, or the mercurial treatment of diphtheria, such disadvantages specifically enumerated being—

1. The likelihood of the immediate death of the patient.

2. The presence of measles, scarlet fever, influenza, etc., as complications of pseudo-diphtheria.

3. The knowledge that our patient has been sick from five to ten days before we see the patient.

4. The almost positive assurance from the clinical history of the case that it is one not of pure, but of mixed, diphtheria.

Will antitoxine, all things considered, furnish in such a contingency as fair a record as the mercurial, stimulating and supporting treatment of diphtheria?

Summary.—Inject antitoxine only in cases seen early or in cases which assume the character, both bacteriologically and clinically, of the simple Klebs-Löffler diphtheria. In cases seen late, or in cases in which from the severity of the clinical symptoms, and especially when the kidneys are working badly, you are almost positive that there is mixed infection, it is the safer plan to discard antitoxine altogether.

ANTITOXINE IN DIPHTHERIA.

By Herman M. Biggs, M. D.,
New York.

REMARKS MADE AT THE MEETING OF THE NEW YORK MEDICO-SURGICAL SOCIETY, HELD AT THE MADISON AVENUE HOTEL, NEW YORK CITY, MONDAY, DECEMBER 7, 1896.

Dr. Herman M. Biggs said that first he wanted to make one or two corrections in regard to Dr. Sims Woodhead's horses (referred to by Dr. Winters) that showed such striking reaction. It was not diphtheria antitoxine which was used, but diphtheria toxine. It is quite a different matter whether we use a substance which in itself is absolutely harmless, or whether we use a substance one of the most virulent of known poisons. There is no mention about the variation in resistance to poisons and there is nothing known in nature to compare in virulence with bacterial poisons.

There was also an error in regard to the Boston opinions as to the strength of preparations of antitoxine, as the Massachusetts Health Board, in testing antitoxine, had reported numerous specimens of serum that contain from 200 to 400 units in each cubic centimeter.

Regarding the dangers attending the use of antitoxine, there was not sufficient evidence to show that in one sin-

gle instance, out of probably now between 500,000 and 750,000 injections, was death or serious permanent injury produced by antitoxine.

Regarding Dr. Bieser's cases, there was nothing said as to when or how they were treated. Out of 7 cases, 4 of them are treated after they have been sick one week or longer. Of the 3 remaining cases, 2 recovered and 1 died, and the one that died, died 22 hours after the intubation and probably antitoxine was administered at the same time. There is no convincing evidence to show that antitoxine does any good in cases five days ill. Statistics are absolutely valueless unless they are taken in consideration with the time of administration.

The evidence as to the value of antitoxine in the treatment of diphtheria may be considered under the following heads:

1. The experimental evidence which, so far as animals are concerned, is absolutely conclusive, as to the specific influence of antitoxine in neutralizing the toxic effects of the bacteriological poison.

2. The results shown in large collections of cases of diphtheria treated by different observers in private practice and in hospitals throughout the world.

3. The influence on the absolute mortality in the hospitals in the cities since the introduction of antitoxine, as compared with the previous statistics.

Dr. Biggs had prepared a number of charts illustrating these cases and the results shown were as follows: The collection comprised 24,768 cases, of which about 15,000 were hospital cases and 9000 were treated in private practice. The mortality was about 19 per cent. in the hospital series and 10 per cent. in those treated in private practice. The mortality in the whole collection was about 16 per cent.

The average previous mortality in this series as given by the reporters varied between 30 and 40 per cent., when the lowest statement was taken in the reports. In many instances the mortality, especially in hospital cases, exceeded 50 per cent. The average reduction as shown in the whole series, about 25,000 cases, exceeded 50 per cent.

In certain of these reports certain groups of cases were given in which antitoxine was used in treatment immediately before, at the same time, or immediately after the treatment of other groups by other methods and the comparative results were given. In these cases definite statements of results were given. In about 8000 hospital cases treated with antitoxine the mortality was 21 per cent. and in 9000 cases without antitoxine mortality was 36 per cent. These cases were of the same kind and were under exactly identical conditions. In private practice 3100 were treated with antitoxine with 13 per cent. mortality; without antitoxine, 40 per cent. mortality.

A certain proportion of the cases were grouped according to the day of disease on which antitoxine was administered; about 10,000 cases, mortality 16.1 per cent; first day, 1415 cases, 3.5 per cent.; second day, 2640 cases, 8 per cent.; third day, 2340 cases, 12.8 per cent.; fourth day, 1458 cases, 23.6 per cent.; fifth day and after, 1912 cases, about 35 per cent.

As we all know, the laryngeal cases are the most fatal. In this group of cases they have been separated into those operated on and those not, a total of 15,000 cases in this group, with a mortality of 16 per cent. Operated upon, about 3000. Thirteen hundred and fifty-five tracheotomied, 1675 intubated; mortality in tracheotomy 42 per cent., in intubation, 31 per cent. Lowest mortality in any considerable group of intubation cases reported, 55 per cent. In any large group of operative cases the lowest mortality, 70 per cent. Average in hospital from 70 to 80 per cent.

The age of the patient is very important in the mortality in diphtheria. It is very high in young children and proportionately less in adults. In a certain proportion of the cases they were examined in relation to age; about 1500 under 2 years were treated with antitoxine; mortality, 31½ per cent. Baginsky puts the mortality under 2 years of age

at 63.5 per cent. ; 2 to 5, mortality with antitoxine was 20.7 per cent.; previous to the use of antitoxine, 45 per cent.; 5 to 10, 14 per cent.; previously, 24 per cent.; over 10, 6.9 per cent.; previously, 14 per cent.

The criticism is constantly made, "That is all very well, but percentage mortalities do not count anything. Statistics can be made to show anything you like, depending upon what you want to show." One thing does show; that is the number of total deaths. Antitoxine has been largely employed and we should see some results in the total deaths occurring in hospitals, cities and countries—this is not a question of percentages. It is not a question of mild or severe cases, or laryngeal cases, or non-laryngeal. It is a question of the total deaths occurring from this disease. These data are taken from the official reports of the Municipal Council of Paris and of the Imperial Board of Health of Germany. The deaths from diphtheria and croup in Paris in 1889 were 1890; 1890, 1859; 1891, 1531; 1892, 1557; 1893, 1266. In 1894 antitoxine came into use. In the first half of 1894, deaths from diphtheria were 734.

The mortality was considerably higher than in 1893. In the last half of 1894, after Roux's paper at Buda-Pesth, antitoxine came into very general use in Paris and the mortality dropped to 271, or much less than one-half. The total mortality for the year 1894 was 1009. In 1895 the mortality was 440. The data available go back ten years and there had never been a year in which the mortality was less than 1200. In 1895, with antitoxine, it drops to 440. For the first half of 1896 the mortality was higher—320.

In Berlin antitoxine came into use somewhat later than in Paris. In Paris it was taken up after Roux's paper as a source of national congratulation and the French government established immediate control over its preparation. The *Figaro* raised a large subscription for its free administration and for its free use and it was generally employed throughout Paris almost immediately.

In Berlin it did not come into use generally until the middle of 1895, although it was used largely in the hospitals in the early part of 1895. This chart shows the mortality for different years in Berlin previous. You see it runs from 1078 in 1891 to 1643 in 1893. In 1895, with half a year's use, it dropped to 996, and for the first half of 1896 to 294, which is a little more than one-half of the lowest mortality which has been recorded before. These are the absolute deaths.

Another method of considering this matter is with reference to the mortality in the hospitals for these years—the number of cases, the absolute number of deaths and the percentage of deaths. The hospital mortality in Europe from diphtheria has always been much higher than here.

In 1893 the number of cases treated in the Paris hospitals was: Cases 1882, deaths 986, mortality 51 per cent. In 1894 (the last four months of the year antitoxine was employed) the absolute number of deaths dropped to 837, while the number of cases increased to 2355, mortality 35.5 per cent. In 1895 the absolute number of deaths dropped sharply to less than one-half and the per cent. of mortality $13\frac{6}{10}$. There were—cases 2644, deaths 363, mortality 13.6 per cent. In 1893, first half—cases 1298, absolute mortality 199, rate 15.3 per cent.

Antitoxine was introduced into the Berlin hospitals with the beginning of the year 1895. In 1893—cases 2570, deaths 1132, mortality 44 per cent. In 1894 data are wanting. In 1895 there were 3144 cases. The absolute number of deaths (493) dropped one-half per cent.; first half of 1896, 1100 cases; absolute mortality 151; percentage $13\frac{6}{10}$. The mortality of 1893 was not high in either Paris or Berlin.

In 1895 the mortality in New York City had dropped nearly 1000, although the actual number of cases has materially increased. In 1896 the mortality has dropped still more. It will be this year about 1800—always with a still larger number of cases. This year the number of cases will be between 10,000 and 11,000.

As bearing on this point of view I have here the number of deaths per 100,000 in Berlin and Paris. It dropped considerably in 1894, and the drop takes place in conjunction with the introduction of antitoxine. It does not take place at the same time in different cities. It took place in different cities and at different times when antitoxine came into use. Kossel collected the deaths from reports of the Imperial Board of Health of Germany, the absolute number of deaths for all cities in Germany with a population greater than 15,000. The yearly deaths run from 10,400 up to 13,790, and this shows the deaths per 100,000 of the population. It was 108 in 1889; 105 in 1890; 84 in 1891; 97 in 1892; 101 in 1894. Suddenly in 1895 it drops to 53, exactly one-half of what the average mortality per 100,000 of population had been for the previous six years.

The same thing has been done in France, with exactly the same results. Dr. Mona, Director of the Public Health Department of France, collected deaths from diphtheria and croup in all French cities with over 20,000 inhabitants. For 6 years the average was 2627 deaths the first 6 months of the year. In 1895 for the same period there were 904 deaths, or a little more than one-third the average for the previous six years.

What I wish to bring out is that it does not make any difference how you state things; it does not make any difference how you twist figures. When you take large series of cases as derived from reports all over the world, the results are absolutely the same, whether we consider them from the percentage of mortality without reference to cases in hospitals or in private practice; whether we consider them as to percentage mortality or absolute mortality in cities or in countries, as Berlin and Germany, or Paris and France, the actual result is the same.

If we consider cases with reference to age or date of disease, it matters not what view you take, the result is the same, *i. e.*, there has been a diminution of mortality in diphtheria from the use of antitoxine of at least one-half and in some cases to one-fourth what it previously was. It seems so utterly futile to talk about the opinions of one man or another man when you are dealing with data which are so large as are now available. The fact is, we have the best clinical observers of Europe, the most distinguished men, the most distinguished authors, all unanimous that antitoxine has reduced the mortality from diphtheria at least one-half.

You have then in considering the value of antitoxine first the most careful series of experimental investigations that have ever been produced in any disease pointing to this conclusion. We have, second, a collection of 25,000 observations made from the reports of over 150 observers, with none of them less than ten cases and most of them over 50 cases, with the absolute mortality and the percentage of mortality reduced in every instance to about one-half, and we have finally the verdict of the best observers in medicine throughout the civilized world.

ECLAMPSIA AND THE MILK TREATMENT.

FERRÉ (*British Medical Journal*) insists that the milk treatment is most efficient from a prophylactic point of view, though it does not necessarily cause the other alarming symptoms, besides the fits, to vanish. He has never seen fits in a patient subjected for over a week to milk diet, nor any other trouble of a toxic origin. The alleged disappearance of albuminuria, on the other hand, does not necessarily occur. He speaks with equal decision on this point, declaring that he has never seen so much as an appreciable diminution of albumen, even after prolonged treatment by milk diet. Ferré says the same of the edema; this treatment seems to have no effect on it. He emphasizes the above facts because he is aware how some obstetricians have very naturally given up milk diet on account of persistence of albuminuria and edema.

THE SCIENCE OF GENERATION AND ITS PHENOMENA.

By William F. Barclay, A. M., M. D.,
Pittsburg, Pa.

READ AT THE SIXTH SEMI-ANNUAL MEETING OF THE TRI-STATE MEDICAL ASSOCIATION OF WESTERN MARYLAND, WESTERN PENNSYLVANIA AND WEST VIRGINIA, AT CUMBERLAND, MD., DECEMBER 3, 1896.

(*Concluded from last week.*)

THE tendencies of individuals in sanity are uniform and correspond to fixed lines in human thought and action. Intelligence and moral convictions do not overcome organic defect and the results which attend anomalous organization. Virtue and good tendencies do not entitle the individual to special commendable consideration, neither does obligation rest upon those persons who have defective mental organizations. A study of over nine hundred convicts showed that ninty-five per cent. continued in the lines of evil conduct and action which had placed them beyond the pale of lawful society. The remaining five per cent. showed that a small percentage were innocently incarcerated, and the remainder were accessories after or before the facts. Courts understand these penal institution reports and are governed in their administration of justice accordingly. First offences raise a question of previous character and if a good reputation is established by evidence it is a mitigation in sentences. Second and subsequent offences receive the full penalties attached to the offences committed. It was demonstrated after careful inquiry that only a small number of the convicts had reproduced themselves in offspring, and it can be established that criminals intentionally or on account of penal servitude do not enter into the generation of the human race to any considerable extent. It would be a great advantage to the human race if persons of evil tendencies could be deprived of the privilege of entering into the reproduction of our race, and thereby prevent the transmission of the organic defects that produce their evil phenomena.

Nature's highways and byways are so devious that we fail to discover her courses in the labyrinth of life, and perchance we follow an *ignis fatuus* that only demonstrates how we may be misled and mistaken in our observations. In the complexity of nature's laws there is a universal equilibrium and after all that is known it is folly in the scientist to attempt to change that which pervades animate and inanimate nature. Life is a subtle thing and in our efforts to sustain and prolong it the nearer we follow the teachings of that which we observe and understand the more satisfactory to ourselves and those that claim our skill and efforts will be our ultimate results. The violation of natural laws as well as perversion of functions is followed by malformations and deformities that afflict the offspring of those that are guilty of such offences. The sins of the fathers are visited upon their children, even unto the third and fourth generations. The crimes committed by the perversion of functions are a sin against nature and a shame to humanity. These offences against nature can only be hinted at in decent society, and the youth of our nation in whom we confide the care and keeping of our social and national life and its preservation should be warned and protected from the dangers that may destroy their physical, moral and social existence.

Were it not for the confidences confided in our profession by which we are bound in sacred honor to withhold the truth we could record the awful results that arise from such transgression of natural laws upon innocent posterity. The phenomena that we observe from such practices as are not to be mentioned are of the most painful and woeful character. To the pure, all things are pure, but we who know from our

observations that in the truth of much that can not be recorded there are certain evil influences that certainly prevail to an alarming extent which undermine and destroy many from off the earth whose death records would demonstrate that they had been the victims of their secret sins. The traditional belief that the conduct of every human being is the result of his own free will or lack of education, rather than original physio-psychical constitution, is certainly under the light of scientific investigation being reconsidered. Born to crime is applicable to a class of criminals, and irresponsibility is recognized in criminal sociology as a just mitigation of offences against law and order. That taints of good and evil attend life from the moment it takes its beginning in the elements that enter into its inception is certainly a question of paramount importance in the reproduction of human life and character. The transmissibility of disease conditions is certainly established, especially syphilis in its different stages, it being identical with that which exists in the progenitors at the time of conception. Conformation of the body and similarity of features partake of the characteristics in progenitors and are readily distinguishable in families. It is noticeable that males partake of the characteristics of the mother, and females of the father, although the temperaments of both are readily distinguishable in offspring.

The intimate study of the organic composition of the human brain in its atomic structure and molecular cell-life enables the student to comprehend the phenomena we observe in human thought and action. The molecules have number, kind and shape, and doubtless this establishes their physiological actions. It is in this conception that we arrive at a correct conclusion and understand the nerve centers and their powers, which are coördinated by the cerebellum and spinal cord. Chemical and microscopical examinations differentiate between normal and pathological conditions but do not discover the organic cause of derivations of thought and action.* We form our conclusions of rational thought and action from that which we observe in lines that are coördinate and normal. The basis of sane and insane thought and action is in the coördination of rational conduct in that which the mind perceives. Perfection or a near approach to it in organic life is attended by phenomena that claim our highest consideration of vital energy. The more perfect the cerebral centers and the material that composes their intimate structures with equilibrate conformation the better will be their manifestations. Conceptions of the human mind are the result of environment, and the conclusions arrived at indicate the power of the brain and its equilibrate action. An index of the phenomena of life is plainly written in the contour of the body and its lineaments which portray human character. The visible traits that we observe in our studies of the human body in physiognomic features are largely correct and it is the handwriting of innate organic perfection or imperfection which is displayed in words and actions.

The philosopher declared that infinite wisdom was not displayed in organic life or human physiognomy, but rather the law of mistakes seemed evident in the larger part of human creation, certainly was not wanting in the power of observation. Perfect types of physical development and mental power are the exception and degeneration painfully evident in studies of humanity. Phenomena are mental and physical manifestations in organic life and not the special idiosyncrasies of individuals. In the science of generation, the *terra incognita* is to the physiologist the subject that the scientist should not too carefully investigate. Knowledge of how we begin life and its conditions is therefore too sacred for man's investigation and yet a large part of the human family stifle, thwart and prevent the functions that enter into normal causation. The evils that follow the prevention of offspring as well as the perversion of the functions that enter into generation are undermining our social life, which is the foundation of our religious and civil

liberty. The crimes of omission and commission that are committed in the physiological and pathological functions of generation are more potent factors in the destruction of life and health than all other causes combined. The evils and ills that afflict and destroy man are the results of perversion and distortion of the sexual function and cannot be fully understood or described. The normal legitimate exercise of the God-given functions of generation are the very essence of life and happiness; on the contrary they may cause more mental and physical suffering as well as degradation of mankind than it is possible to conjecture or comprehend.

We cannot understand the moral and physical results that are dependent upon the illegitimate exercise of the functions of generation. Society is continually disturbed and distracted and individuals are disgraced and debased by the illegitimate and inordinate indulgence of the sexual functions. The diseases that are the result of perversion and inordinate exercise of the functions of generation can not be enumerated, neither can the immediate and remote results be computed in the phenomena that characterize their physical and mental manifestations. Study the laws that govern and produce phenomena and foresee their ultimate results. The crimes of prostitution are the bane of civilization and their demoralizing effects produce a line of evil tendencies that curse and debase mankind. Prostitution is correctly placed in the list of crimes; and laws sufficient for its correction have as yet to be enacted and social and moral efforts are unavailing in its correction. That prostitution is a necessary evil is certainly an evidence of the degeneration existing in the present generation. When we investigate the stigmata of degeneracy we readily arrive at the conclusion that there are modifications occurring during fetal development so that the organs of the body show the effects of the arrest of normal development. It is more especially in the central nervous system in the nervous organization, which impresses heredity. The evolution of mind depends upon the organization of the brain and spinal cord, which influences the coördination of our mental acts and impulses. It is noticeable that congenital defects are transmissible by heredity in generations. The nervous mechanism is responsible for the evolution of deviations from the normal types which produce anatomical, physiological and psychical anomalies which designate phenomena. The influences which affect the nervous mechanism of heredity are drink, craving poisons, inordinate indulgence of the passions and the effects of different forms of neurasthenia.

Congenital organic defects are hereditary to a considerable degree and to the careful observer parental influences present at the time of conception can be traced in the physiological and psychical phenomena of children. The determination of sex in offspring is hereditary and follows lines in progenitors, males partaking of the maternal and females of the paternal influences in family histories. The want of power in male progenitors to impart their characteristics to male offspring teaches the importance of the selection of the female in reproduction. Maternal influences are of vital importance in the possibilities of male progeny. The benefits derived from the correct observance of the laws that prevail in the results of reproduction are inestimable in the moral and social universe. The mistakes that are manifest in the phenomena of generation are the bane of society and the student of sociology perceives that the law of errors prevails. That it would have been better that many had not been born is evident and this question enters into the problems that are of vital interest in our moral, religious and social systems and the civil and economic affairs of our nationalities. The physiologist and pathologist are studiously and laboriously engaged in the solution of the questions that pertain to our continuation in family lines and that many families are becoming extinct is certainly established.

The lives of men set out in tribes determine the continuation of their histories in the primary causes that enter

into their existence and the conditions that surround their development and growth which determines the brevity or longevity of their lives. Morbid irritation of the psychical centers finds relief in evil actions; that is, the organic conformations are such that their tendencies are evil and antagonistic to the welfare of society. The anomalies found in the physical organization of criminals are most interesting and demonstrate that these abnormalities are characteristic and correspond to the classes of crimes committed. The most careful and scientific observers have examined large numbers of criminals and have classified the anomalous conditions found to exist in criminals, and Lombroso has embodied his observations in that most interesting and instructive book "The Female Offender." To those who are interested in the study of the science of generation and its phenomena this work is commended as an invaluable aid in the comprehension of a subject that interests the scientific physician in the prosecution of psychical studies.

Theologians and moralists may proclaim their theories and the causes that aid humanity in absolving itself from degradation and misery, yet our hearts are full of compassion for those that seem so cruelly doomed to fate and our commiserations are made less onerous in the thought that science may yet solve the problem that dooms humanity to conditions in criminal lines. A morbid deviation from an original type which is in its inception transmissible and increases in its power to impress the unfortunate offspring of degenerates may be modified or corrected by a correction in the lines that have produced it. Degeneracy is evident in physical and psychical characteristics, in deformities in stunted growths, in want of symmetry, in abnormal proportions of development, in the abnormalities in coördinate psychical actions in the phenomena of anatomical and mental degeneration. Perfection in physical development based upon the highest and best types in races is the exception so much that we seldom observe it in anthropological studies. That scientific studies and observations and the conclusions arrived at must direct the minds of thinking men and women to the subject of generation so that conjugal relations conducive to better results shall not only be considered and put into practical use in the continuation of the races, but shall be an imperative duty of every one contemplating the subject of reproduction in generation.

The blots that mar anthropological science in its organic forms and their phenomena darken the pages of history and horrify the student of psychological observation and research. The number of human beings born each day is one hundred and thirty thousand and the degenerate and anomalous conditions transmitted constitute the phenomena of generation. The survival of the fittest is the great social and economic problem of the age. That crimes are on the increase is established and theories as to its causation are discussed, but after all generation and the organic causes found in the brain and spinal cord are the primary and only cause of imperfections of degenerates and the corresponding anomalous characteristics. It is alleged that overwork superinduces neurasthenia and this condition of the nervous system tends to the formation of habits that injure health and morals which is transmissible. Labor is not deleterious to physical development and moral rectitude, but, on the contrary, idleness is the great evil in human society that festers and destroys the physical and moral lives of thousands of the rich and opulent. Labor is honorable in all and conducive to the well-being of the individual in society and State. Idleness is the great scourge of our nation that is destroying our religious, social and economic national systems. The laboring classes are producing the brains and brawn of our generation that is to bear the burden of the perpetuation of our moral, religious, social and civil institutions is as clearly demonstrated as any problem in human progress.

We cannot look to the idle and degenerate of our country for the material

that builds the glory and splendor of our religious, moral, social and civil institutions, but, on the contrary, we elect the industrious, honest, virtuous men and women of our country by birth or adoption, who steadfastly and industriously continue in the way of truth and patriotism in the generation of our people.

Society Reports.

NEW YORK MEDICO-SURGICAL SOCIETY.

MEETING HELD AT THE MADISON AVENUE HOTEL, NEW YORK CITY, MONDAY, DECEMBER 7, 1896.

THE President, Dr. E. J. Bermingham, in the chair.

Dr. Augustus E. Bieser read a paper entitled WHY IS ANTITOXINE A BONE OF CONTENTION IN THE THERAPEUTICS OF DIPHTHERIA? (See page 293.)

Dr. Joseph E. Winters said that a comparison of the results of a given number of cases of diphtheria treated with and without antitoxine as shown by Dr. Bieser's paper were quite different from what we had been led to expect and from what had been stated by some gentlemen of note.

In diphtheria, as in everything else, it is a question as to the character of the material we are dealing with. This explains why one physician will get a death rate as high as ever reported in cases of laryngeal diphtheria, in spite of the use of antitoxine, while another will get a much lower rate.

Two years ago we were told by gentlemen who were using tubes that the majority of cases of laryngeal diphtheria could be cured by means of calomel fumigation without operation and very flattering reports were received from Brooklyn and other places. Recently we have heard the same thing with regard to antitoxine. Both treatments are used at the Willard Parker Hospital.

Diphtheria varies in its type just as much as does scarlet fever or any other disease. One year the mortality will be very high, while another year the disease will be of a mild type and the mortality low. They say we have a specific for diphtheria, but what we want is a specific that will save such cases of diphtheria as occurred in the epidemic at the Delaware Water Gap in the autumn of 1894, when it did not cease its hold upon a family until there were none left alive. We want a specific that will reach diphtheria such as they recently had at Bergen Point or Bayonne City, where Dr. Alexander Dallas treated eleven consecutive cases with antitoxine and ten of them died. When we have a remedy which when applied in any part of the world and with any and all practitioners will save seventy-five per cent. of our laryngeal cases, not today or tomorrow but throughout all the years, then we may talk about its having some effect as a specific.

It is a very important question regarding antitoxine whether it is a safe remedy or whether it is injurious.

We have heard a great deal about mixed infection and that our antitoxine does not meet those cases and that we must supplement it by the use of something which will prevent death through the action of the streptococci; that we must inject the antitoxine and then inject antistreptococcus serum. I wish to impress upon the minds of the gentlemen present, that when they are called upon to do these things, they first go and see it used at such places as the Willard Parker Hospital, where it is carried out very thoroughly.

One physician relies on one serum and another on a different preparation and each places his confidence in them until they fail. The fact is, one serum is as good as another; — all equally dangerous.

I question indeed as to whether any one knows anything about the strength of these preparations. The *Lancet* had a commission appointed last spring to investigate this matter and they reported. The *Lancet* was taken to task by the man in charge of one of the laboratories in London, who said they misrepresented that particular serum; that it was of such and such a strength; the *Lancet* replied that the commission was all right and that the strength was just as they had reported.

Dr. Herman M. Biggs made some remarks on ANTITOXINE IN DIPHTHERIA. (See page 295.)

Dr. J. H. Fruitnight said in part: It cannot be denied that the diphtheria antitoxine is efficacious in those cases of diphtheria which are designated by the bacteriologist as true or Klebs-Löffler diphtheria. From a clinical standpoint diphtheria antitoxine is not a cure-all for diphtheria nor is it an agent working unconditionally in every case of diphtheria, for even Baginsky has said that "beneficial effects are not obtained from diphtheria antitoxine in every case, even when used early, being probably due either to a too large amount or excessive virulence of the infection," which may be interpreted to mean a mixed infection.

Dr. George Bieser said that experience had demonstrated to him that in those cases of diphtheria in which antitoxine would be of value the same results could just as readily be obtained by other methods of treatment. In the severer cases he considered it had been an absolute failure. It is not proper or rational to treat but one factor in the disease. While the Klebs-Löffler bacillus is one factor, there are present a number of other bacteria. How are we to know in any particular case that the Klebs-Löffler bacilli are not present with other bacteria and that these other bacteria and not the Klebs-Löffler are the ones which are producing the damage? He said that as a result of his experience he had returned to the supporting, the stimulating and the antiseptic method and thought that today the antiseptic method and not the antitoxine is the true specific for diphtheria, if there is a specific; but it must be employed thoroughly or not at all.

Dr. C. C. Fite said he would like to ask Dr. Winters a question. He spoke of the use of the anti-streptococcic serum. If he understood the position Dr. J. Lewis Smith took in this matter, as mentioned by Dr. Fruitnight, it was that in those cases of mixed infection we use the anti-diphtheritic serum first and then if the case does not improve we use the anti-streptococcic serum. Dr. Winters said he had studied the matter a good deal lately and was interested in it. He would be very glad if he would let us know what has been done in this city with anti-streptococcic serum.

Dr. Winters replied, in answer to Dr. Fite's question, that in the cases he had seen treated the anti-diphtheritic serum had been applied first and then the anti-streptococcic serum and the two injections made about the same time. The antistreptococcic serum was only used in selected cases, those that had been examined and found free from all complications.

Dr. J. Blake White said that the value of any experience in this line must be measured by the aggregate of individual experience. He himself had not used antitoxine personally, but had seen it used by others and had not observed any better results than from other methods of treatment. He believed in the antiseptic method.

Dr. Biggs said, in reply to several of the remarks in regard to strepoccocus serum in use in mixed infection, that it seemed to him if there is one thing definite in medicine it is the specificity of the infectious diseases. It is perfectly certain that diphtheria antitoxine is absolutely valueless so far as streptococcus infection is concerned. It will not neutralize the streptococcus toxine. So far as the use of streptococcus antitoxine in cases of mixed infection is concerned it simply is a question whether the streptococcus antitoxine does neutralize the toxine or not. So far as the use of serum in the Willard Parker Hospital is concerned, it has been in use there less than a week, and he was surprised to hear Dr. Winters' statement as to the kind of cases in which it can be used.

In regard to what kind of cases it can be used in with the greatest benefit, it was decided that it would be better to employ it in those cases which apparently did not have bronchial pneumonias or septicemias, but such cases as the previous history had shown were likely to get it. There is no foundation for the statement, so far as I know the history of streptococci, that it is not to be used in cases which are complicated.

Those are exactly the kind of cases it is to be used in.

In regard to London statistics, in the first place diphtheria antitoxine has not been long employed in London. Englishmen are very conservative and the most extraordinary feature of their whole treatment of the antitoxine question has been the absolute negligence in its preparation. It is only very recently they have had it and they were three months putting up a serum which has no strength in it. It seems as though no one in America would be so foolish as to use it. In the majority of cases it is not more than 60 units and they simply say it is 20 or 30 cubic centimeters, and the investigations of the *Lancet* showed that the serums which were being used in England, aside from the imported serums, are absolutely unreliable. They contain anywhere from one-fourth to one half, or in some cases less than one-fourth of the strength of the serum of a useful standard. He would distinctly contradict the statement that diphtheria antitoxine has been largely employed in London or in Great Britain.

Dr. Augustus E. Bieser said in closing the debate : In reply to the remarks of the previous speakers, while the classification of diphtheria by bacteriological presence is interesting and instructive scientifically, the classification of diphtheria according to its pathological lesions and the clinical history of the case is even more important. A case of false membrane in the pharynx or larynx, either seen by the eye or detected by any other means, with a clinical history of diphtheria, especially irregular temperature, the prostration out of all proportion to the severity of the lesion or its location, would indicate to him that it was a case of clinical diphtheria, whether Klebs-Löffler bacilli are present or not ; conversely, a case with white patches in the throat and Klebs-Löffler bacilli present, and the above symptoms of irregular temperature, etc., do not appear, would indicate to his mind that it was not a case of diphtheria from a clinical standpoint. There is great variability as to the presence of the Klebs-Löffler bacillus in diphtheria and this may be explained by the theory of mutability of germs. Whereas Koch maintains the specificity of germs both as to their form and morphological character. Virchow maintains their mutability in both of these respects. Bucher has been able to convert hay bacilli into anthrax bacilli and anthrax bacilli back into hay bacilli, making the anthrax bacilli lose their virulence in this latter conversion.

Not only is there great variability as to the presence of the Klebs-Löffler bacillus, but in his mind there is great doubt whether it was the sole cause of diphtheria, first, because it has not been disproved that different bacilli can cause the same disease; and second, because it has not been disproved that different bacilli can cause the same toxine. Yeast is not the only germ that can produce the toxine alcohol. Kitasato's germ is a cause of tetanus just as much so as is Tezzoni's, yet the latter is inert raised in bouillon, while the former is virulent. Less than a decade ago it was found by experiments upon animals that a micrococcus was the cause of diphtheria. Now it is the Klebs-Löffler bacillus.

Five years ago the laws taught that the streptococcus was the cause of diphtheria. The truth is both are probably concerned in the causation, making diphtheria a polymicrobic, not monomicrobic, disease. The antitoxine removing merely one element, viz. : the Klebs-Löffler bacillus and its toxine and leaving an equally, if not more, important element (streptococcus) behind can not therefore meet all the requirements of a clinical bedside diphtheria.

The sooner we treat diphtheria in its clinical aspect, with reference to the condition of the patient, especially the state of the vital functions, and make the removal of the cause, as in scarlet fever and pneumonia, of secondary importance, the more recoveries from diphtheria will we record. Tend the emunctories, disregarding the germ altogether (because we do not know it), making its removal of minor importance, and as in pneumonia, keep up the circulation.

MARYLAND

Medical Journal.

PUBLISHED WEEKLY.

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MARYLAND MEDICAL JOURNAL,
209 Park Ave., Baltimore, Md.

WASHINGTON OFFICE:
913 F Street, N. W.

BALTIMORE, FEBRUARY 6, 1897.

The Repair of Arteries and Veins.

In the *Medical Record* of January 16, Dr. John B. Murphy of Chicago presents an elaborate experimental and clinical paper on resection and suture of injured arteries and veins. He gives the histories of experiments upon dogs, calves and sheep, in which he made incisions into the large arteries and veins, and immediately sutured the wounds with silk, gut or kangaroo tendon. In other experiments he excised considerable portions of the large vessels, and succeeded in effecting an anastomosis between the two ends. In some of the experiments the arteries were united end to end with a continuous suture, in others the end of the proximal portion was invaginated into the distal portion. The arteries experimented on were the carotid, iliac, femoral, abdominal and aorta. The results of the experiments are interesting, and tend to overturn our previous ideas in regard to the restoration of arteries after wounds.

It was formerly thought that an incision into an artery would not heal, and would almost inevitably be followed by a traumatic aneurism, if the patient did not bleed to death. The experiments of Dr. Murphy prove that a wound in an artery will heal very readily if accurately sutured, and though a sufficient time did not elapse to absolutely prove that aneurism would not follow, yet the presumption is very great that such is the case. Sometimes thrombosis occurred, but in some instances the lumen of the vessel remained quite free. The sutures generally became encapsulated and did not project into the blood current.

Resection of three-fourths of an inch of the larger arteries was done, and the ends reunited without putting any undue tension on the vessels. Some of the arteries were united by a continuous circular suture, others were invaginated. Thromboses frequently, but not invariably, followed. At the point of invagination great thickening and contraction of the arterial walls occurred and usually thrombosis. The experiments upon the aorta were very interesting; this vessel was incised and sutured and sometimes entirely divided and reunited—the animals usually died from hemorrhage, thrombosis or peritonitis. One recovered after transverse incision through all the coats of one-third of the circumference of the abdominal aorta, and immediate continuous suture. It was killed 27 days subsequently, and the vessel was found to be but slightly contracted and not thrombosed.

Suture of wounded veins was attended with more success than were similar procedures on the arteries.

Dr. Murphy tabulates the indications for operation as follows:

1. Injuries to large vessels in operation.
2. Injuries to large vessels from stab, puncture, bullet or lacerating wound.
3. Traumatic and dissecting aneurisms.
4. Sacculated, fusiform and arterio-venous aneurisms.

He says: "In injuries to large vessels in operation, the injury to an artery, if less than two-thirds of the circumference be involved, should be immediately repaired by suture. If more than two-thirds of the circumference be injured, the division should be made complete and the invagination method used for approximation."

In stab, puncture or lacerated wounds, an

aneurism generally forms, and the sac should be enucleated and the opening into the artery sutured. Acting upon the above principles, Dr. Murphy sutured the femoral vein and artery for a perforation of these vessels from a gunshot wound, in a man. After a very stormy course, it became necessary to reopen the wound, resect a portion of the artery and apply double ligatures to it, and the patient recovered.

In a second case of penetrating wound of the common femoral artery and vein, the perforations were exposed, that into the vein sutured, and the femoral artery resected for a half inch, and the ends invaginated and sutured. The whole procedure required two and a half hours for its accomplishment, and the man recovered.

Whilst the experiments above described and the clinical experience mentioned are interesting, it can hardly be accepted as instituting a principle of practice. The suture of veins seems to be a fairly successful operation, but even this may be followed by thrombosis and embolism, and it would be better, probably, to put a circular ligature on the vessel, if the opening is too large to be closed by a lateral ligature.

In regard to the suture of arteries, there can be no particular objection to the procedure in the vessels of the extremities; thrombosis will probably occur, but that would be no more dangerous than a ligature, as both would equally arrest the circulation. On account of the danger of cerebral embolism it would seem to be unsafe to suture the common or internal carotid arteries.

* * *

Physicians as Citizens.

A GOOD physician is very often a poor citizen. The opinion has too often been expressed that physicians should show no interest in the federal, State and municipal government and exhibit an ignorance in matters political. At the recent celebration at the fiftieth anniversary of the New York Academy of Medicine, Mr. Cleveland, the President of the United States, delivered an address which contained not only humor, but good, hard sense and was expressed in a terse and clear manner. He paid a just tribute to the physician and compared the medical man of the present day with the old family practitioner and country doctor. In conclusion he pointed out very clearly that the physician, as well as any other citizen, had civic obligations and responsibilities and he ended his remarks with the following well chosen words:

"We cannot but think that the discoveries and improvements in medical practice which we now enjoy are dearly bought if the members of the profession in their onward march have left behind them their sense of civic obligation and their interest in the general public welfare. We cannot accuse you of utter neglect of your duty to the country and yet we cannot keep out of mind the suspicion that if your professional work in exposing evils were more thoroughly supplemented by labor in the field of citizenship, these evils would be more speedily corrected.

"If laws are needed to abolish abuses which your professional investigations have unearthed, your fraternity should not be strangers to the agencies which make the laws. If members of your profession were oftener found in our national and State legislative assemblies, ready to advocate the reformatory measures you have demonstrated to be necessary and to defend your brotherhood against flippant and sneering charges of impracticability, the prospect of your bestowal upon your fellow-man of the ripened results of your professional labor would be brighter and nearer.

"Our government was founded in the faith and anticipation that those who loved it most and were best able to hold it steady would be at its helm. Without this it will surely go astray. Never did patient need your medical treatment more than the body politic now needs the watchful care of your patriotic and disinterested citizenship."

Words uttered with such force, before such an assemblage and on such an occasion by a man occupying the highest position which this country can give him, should be heard with respect by the medical profession. Physicians pay taxes, many prosperous physicians invest money and take an interest in government; why should they not then take an active part in sailing the ship of State and be ready to advise in all matters relating to their profession as well as on other matters requiring thought and consideration? Mr. Cleveland had done well in urging this on the physicians and his advice should be respected.

Medical Items.

We are indebted to the Health Department of Baltimore for the following statement of cases and deaths reported for the week ending January 30, 1897.

Diseases.	Cases Reported	Deaths.
Smallpox		
Pneumonia		22
Phthisis Pulmonalis		20
Measles		
Whooping Cough	4	3
Pseudo-membranous Croup and Diphtheria.	35	19
Mumps	6	
Scarlet fever	16	1
Varioloid		
Varicella	4	
Typhoid fever	4	

Incoming mail from India is fumigated before distribution.

Dr. Zdekaner, the private physician of the Czar of Russia, is dead.

Typhoid fever causes the death of 48,000 people in the United States annually.

There have been 4396 cases of the plague at Bombay, with 3275 deaths.

The Medical and Surgical Society held its ninety-sixth annual meeting and banquet last week.

Dr. J. Tyler Smith has succeeded Dr. Hiram L. Spicer as Assistant Health Commissioner of Baltimore.

Dr. William H. Burt, one of the most prominent homeopathic physicians of this country, died at his home in Chicago, last week.

Dr. John W. Hilleary, a well-known physician of Petersville, West Virginia, for the past forty years, died last week, aged sixty-six years.

Dr. Thomas A. McParlin, a retired surgeon in the United States Army, died at Annapolis, his native city, last week, aged seventy years. Dr. McParlin was graduated from the University of Maryland in 1847.

At the Health Conference to be held Wednesday and Thursday, February 17 and 18, Dr. William Osler will deliver the address to the delegates, to which Dr. S. C. DeKrafft of Cambridge, President of the State Board of Health, will respond.

The City Councils of Philadelphia have passed a loan bill for $3,000,000 for the construction of a filtration plant in connection with the several pumping stations embraced in the water supply of the city.

Dr. Jacob A. Stayman, who ceased to practice medicine almost thirty years ago, died last week in Baltimore. Dr. Stayman was seventy-one years old and a graduate of the University of Pennsylvania.

Dr. Charles Wardell Stiles of the Bureau of Animal Industry, Washington, D. C., will begin a course of lectures at the Johns Hopkins Hospital on "Animal Parasites," February 4, at 4.30 P. M., in the university amphitheater.

Dr. Charles M. Franklin of Lancaster, Pa., was elected first assistant physician at the Sheppard Asylum to succeed Dr. Edwin R. Bishop. Dr. Franklin is a graduate of the University of Pennsylvania and has had experience in mental diseases.

Dr. John S. Fulton has only been fairly successful in collecting State health statistics. Of 738 physicians outside of Baltimore repeatedly written to but 238 replied. There were thus reported 1131 cases of typhoid fever with 205 deaths; 349 cases of diphtheria and 398 of scarlet fever. No births were reported.

The first annual banquet of the Washington branch of the University of Maryland Alumni Association was held last week at Washington, D. C. Dr. J. H. Mundell was elected President; Drs. J. W. Bayne and T. Morris Murray, Vice-Presidents; and Dr. I. S. Stone, Secretary and Treasurer. Drs. L. McLane Tiffany and R. Dorsey Coale of Baltimore were the guests of the association.

Dr. Perry Millard of St. Paul, Minnesota, died on February 1, in the private ward of the Johns Hopkins Hospital, of pernicious anemia. He had been there for nearly two months and though at first hopes were entertained of his recovery, he has lately been failing rapidly. Dr. Millard was one of the most prominent members of the profession in the northwest. He was one of the first promotors of the Association of American Colleges and he had been for many years Dean and Professor of Surgery in the University of Minnesota. His labors as an educator helped greatly to advance the curriculum of studies in the medical schools of the west.

Book Reviews.

1. Two Cases of Protozoan (Coccidioidal) Infection of the Skin and Other Organs. By Emmet Rixford, M. D., and T. C. Gilchrist, M. R. C. S. (Eng.), L. S. A. (Lond.).

2. A Case of Blastomycetic Dermatitis in Man. By T. C. Gilchrist.

3. Comparisons of the Two Varieties of Protozoa and the Blastomyces found in the Preceding Cases, with the so-called Parasites found in various Lesions of the Skin, viz., Psorospermosis, Follicularis Vegetans (Darier), Carcinoma, Herpes Zoster, Molluscum Contagiosum, Varicella. By T. C. Gilchrist.

4. Two Cases (Including one in the Negro) of Molluscum Fibrosum, with the Pathology. By T. C. Gilchrist.

5. The Pathology of a Case of Dermatitis Herpetiformis (Duhring). By T. C. Gilchrist.

Reprint from the *Johns Hopkins Hospital Reports*, Volume I.

This monograph shows evidence of the extended work which the author has done in diseases of the skin. The pathology of the cases is thoroughly given and the plates are reproduced with faithful accuracy. While it would be impossible to give this excellent work a thorough review here, it is sufficient to say that the papers are all characteristic of the care and thoroughness of all the work of this author.

The Johns Hopkins Hospital Reports. Volume VI, No. 1. Report in Neurology. III. By Henry J. Berkley, M. D.

Dr. Berkley's fasciculus of the Reports contains principally the result of work showing the effect of certain poisons and toxines on the nerves and a series of studies on the lesions produced by the action of certain poisons on the cortical nerve cell. A small part of the monograph is devoted to the discussion of the intra-cerebral nerve fiber terminal-apparatus and mode of transmission of nervous impulses; also an article on asthenic bulbar paralysis. Dr. Berkley has been a voluminous contributor to the histology and pathology of the normal and abnormal nervous system and this monograph is the outcome of a large amount of work which he has done carefully and thoroughly.

Current Editorial Comment.

THE LAYMAN AND MEDICINE.

Physician and Surgeon.

The layman's knowledge of medicine or surgery, except in exceptional cases, is usually so erroneous that it is usually felt to be worse than none at all, as a help to a rational understanding of the conditions of disease. A knowledge of medicine by the laity is always to be encouraged. That a little knowledge is a dangerous thing is the most fallacious of aphorisms. A man with no knowledge is much more likely to make his want of knowledge do the work of some, than is a man to make his little knowledge do the work of more.

CONSUMPTION.

Canadian Journal of Medicine and Surgery.

That consumption is a communicable disease is well nigh universally admitted by medical men, and should be generally understood by the public, but with this knowledge should go the further understanding that the danger of contagion is but slight, and may be absolutely controlled with ease, that is, by caring for the sputum in pulmonary cases and for the alvine discharges in the intestinal form of the disease. But experience proves that it is much easier to arouse public apprehension of danger than it is to control it when once aroused.

COVERT ADVERTISING.

Medical Record.

Advertising pages are as much an essential part of a journal in respect to a doctor's needs as the reading-matter; they both go to him at the same time, both appeal to him legitimately along different lines. The different departments have their function and place, and the integrity and worth of each are only properly maintained by keeping one absolutely separated from the other. Subscribers never complain of this, and are always generous with fair-minded advertisers accordingly; but they nevertheless hate to be fooled, and rightly resent the covert persuasions of the real fool at the other end, by refusing to read what he has written or to believe what he has said. Furthermore, and this is where some editors are shortsighted, the readers come to look upon every article published in journals which commit such blunder with a degree of suspicion which ultimately becomes intolerable.

Publishers' Department.

Society Meetings.

BALTIMORE.

BALTIMORE MEDICAL ASSOCIATION, 847 N. Eutaw St. Meets 2d and 4th Mondays of each month.

BOOK AND JOURNAL CLUB OF THE FACULTY. Meets 2d and 4th Wednesdays, 8 P. M.

CLINICAL SOCIETY, 847 N. Eutaw St. Meets 1st and 3d Fridays—October to June—8.30 P. M. S. K. MERRICK, M. D., President. H. O. REIK, M. D., Secretary.

GYNECOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE, 847 N. Eutaw St. Meets 2d Tuesday of each month—October to May (inclusive)—8.30 P. M. WILMER BRINTON, M. D., President. W. W. RUSSELL, M. D., Secretary.

MEDICAL AND SURGICAL SOCIETY OF BALTIMORE, 847 N. Eutaw St. Meets 2d and 4th Thursdays of each month—October to June—8.30 P. M. W. S. GARDNER, M. D., President. CHAS. F. BLAKE, M. D., Corresponding Secretary.

MEDICAL JOURNAL CLUB. Every other Saturday, 8 P. M. 847 N. Eutaw St.

THE JOHNS HOPKINS HOSPITAL HISTORICAL CLUB. Meets 2d Mondays of each month at 8 P. M.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY. Meets 1st and 3d Mondays, 8 P.M.

THE JOHNS HOPKINS HOSPITAL JOURNAL CLUB. Meets 4th Monday, at 8.15 P. M.

MEDICAL SOCIETY OF WOMAN'S MEDICAL COLLEGE. SUE RADCLIFF, M. D., President. LOUISE ERICH, M. D., Corresponding Secretary. Meets 1st Tuesday in the Month.

UNIVERSITY OF MARYLAND MEDICAL SOCIETY. Meets 3d Tuesday in each month. 8.30 P. M. HIRAM WOODS, JR., M. D., President, dent. E. E. GIBBONS, M. D., Secretary.

WASHINGTON.

CLINICO-PATHOLOGICAL SOCIETY. Meets at members' houses, 1st and 3d Tuesdays in each month. HENRY B. DEALE, M. D., President. R. M. ELLYSON, M. D., Corresponding Secretary. R. H. HOLDEN, M. D., Recording Secretary.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA. Meets 2d Monday each month at members' offices. FRANCIS B. BISHOP, M. D., President. LLEWELLYN ELIOT, M. D., Secretary and Treasurer.

MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA. Meets Georgetown University Law Building 1st Tuesday in April and October. W. P. CARR, M. D., President. J. R. WELLINGTON, M. D., Secretary.

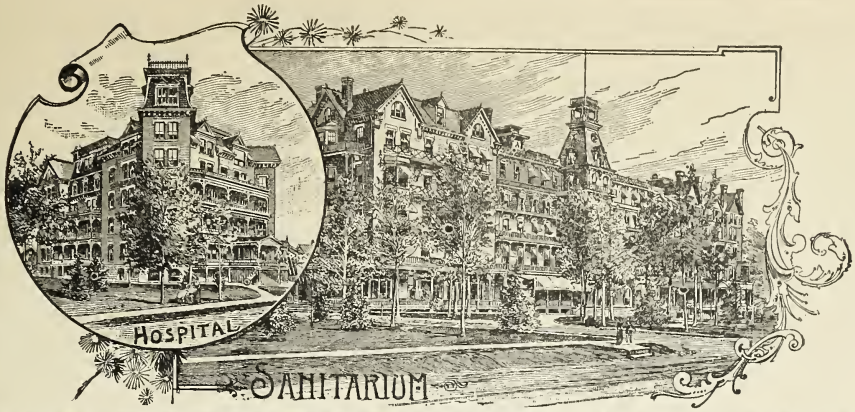
MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA. Meets Wednesday, 8 P. M. Georgetown University Law Building. S. C. BUSEY, M. D., President. S. S. ADAMS, M. D., Recording Secretary.

WOMAN'S CLINIC. Meets at 1833 14th Street N. W., bi-monthly. 1st Saturday Evenings. MRS. M. H. ANDERSON, 1st Vice-President. MRS. MARY F. CASE, Secretary.

WASHINGTON MEDICAL AND SURGICAL SOCIETY. Meets 1st Monday in each month. N. P. BARNES, M. D., President. W. F. BRADEN, M. D., Secretary.

WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY. Meets 1st and 3d Fridays of each month at members' offices. GEORGE BYRD HARRISON, M. D., President. W. S. BOWEN, M. D., Corresponding Secretary.

PROGRESS IN MEDICAL SCIENCE.



THE SANITARIUM, BATTLE CREEK, MICHIGAN.

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The largest, most thoroughly equipped and one of the most favorably located in the United States. It is under strictly regular management. Eight physicians, well trained and of large experience. A quiet home-like place where "trained nurses," "rest cure," "massage," "faradization," "galvanization," "static electrization," "Swedish movements," "dieting," "baths," "physical training," and all that pertains to modern rational medical treatment can be had in perfection at reasonable prices. A special Hospital Building (150 beds) for surgical cases, with finest hospital facilities and appliances Large fan for Winter and Summer ventilation, absolutely devoid of usual Hospital Odors. Delightful Surroundings, Lake-side Resort. Pleasure Grounds, Steamers, Sail-boats, et cetera. Trained nurses of either sex furnished at reasonable rates.

J. H. KELLOGG, M. D., Sup't.,
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Battle Creek, Michigan.

TYREE'S

What such an authority upon Bacteriology as this says must be true—absolutely true—or he wouldn't say it. If the Staphylococci (the germ that produces Leucorrhea) and Gonococci (the germ that produces Gonorrhea) were killed in this case with

War Dept., Surg. Gen'l's Off., Washington, D.C., Jan. 3, '90.
This is to certify that the exact Antiseptic strength of "Tyree's Pulv. Antiseptic Comp." is one part of the powder to fifty of water (1 50). Test tubes containing peptonized beef broth were charged with the powder (Tyree's Antiseptic Powder). The solutions were then inoculated with the Anthrax Bacillus and with the Staphylococci of Pus, and the tubes placed in the incubator for 48 hours, at a temperature of 39° C. On removing the tubes from the incubator, it was found that in the solutions of one in ten, to one in fifty, there was no development of bacteria.
W. M. GRAY, M. D.,
Microscopist to Army Medical Museum.

ANTISEPTIC POWDER

it stands to reason that it will kill them in the vulvovaginal and urethral glands. It does more than this; it brings the parts up to their normal conditions, relieves inflammation and cleans out the little dirty, diseased sacks and renders the parts less susceptible to infection. It is not an antiseptic for everything, but a distinct one for

LEUCORRHEA

Gonorrhea, Vaginitis and Pruritis. One or two teaspoonfuls to a pint of water three times a day.
½ lb., by mail, with directions and formula, for 75c.
Money back if not satisfactory.
J. S. TYREE, Chemist, WASHINGTON, D. C.

ELIXIR SIX APERIENS

A PURE LAXATIVE, made from fresh selected Drugs Suitable for all ages and conditions in removing Constipation. FORMULA: Each fluid ounce (with aromatics) contains: Rhamni Purshiani Cortex (Cascara Sagrada), gr. xxx; Podophyllum Peltatum (May Apple), gr. xxx; Taraxacum Officinale (Dandelion), gr. xxx; Juglans Cinerea (Butternut), gr. xxx; Cassia Acutifolia (Alexandria Senna), 1 drachm; Potassii et Sodii Tartras (Rochelle Salt), 1 drachm. There are few disorders that cause so much mischief as CONSTIPATION. The ELIXIR SIX APERIENS is recommended as a *pleasant, efficient,* and *trustworthy* remedy for *obstinate constipation* of the bowels and the diseases which attend it, as *Headache, Flatulence, Piles, Liver, Stomach, Intestinal and Uterine Troubles,* and the MANY OTHER AILMENTS which the physician can trace to FÆCAL RETENTION. Among the many advantages this Elixir has, it does not tend to leave the bowels in a confined state, but strengthens the muscular fibers of the Intestines, thereby producing permanent benefit upon the peristaltic action of the bowels. The tendency to griping and nausea produced by the ordinary Cathartic is overcome by this elegant Pharmaceutical Preparation, which MOVES THE BOWELS GENTLY WITHOUT PAIN OR OTHER INCONVENIENCE. We attribute its mild and efficient action on the bowels to the *combination* of the six well-selected Laxatives. It is the *combination* which is so *remedial,* proving that the *united action of remedies* is often requisite to success when either alone is insufficient. Physicians when prescribing will please write: R. APERIENS ELIX. SEX.—One bottle. (WALKER-GREEN'S). The Druggist will please write directions on his own label. Attention is also called to our ELIXIR SIX BROMIDES, ELIXIR SIX HYPOPHOSPHITES, and ELIXIR SIX IODIDES, which are unexcelled for clinical efficiency and palatability. Wholesale price per dozen: Iodides, $8.00; Bromides, $8.00; Hypophosphites, $8.00; Aperiens, $8.00. SEND FOR DESCRIPTIVE CIRCULAR. These Elixirs are kept in stock by Wholesale Druggists generally throughout the United States.

The Walker-Green Pharmaceutical Co.

(INCORPORATED.)
No. 180 W. Regent St., Glasgow, Scotland, & Kansas City, U.S.
A liberal discount will be allowed Physicians who desire to prove their clinical efficiency.

PROGRESS IN MEDICAL SCIENCE.

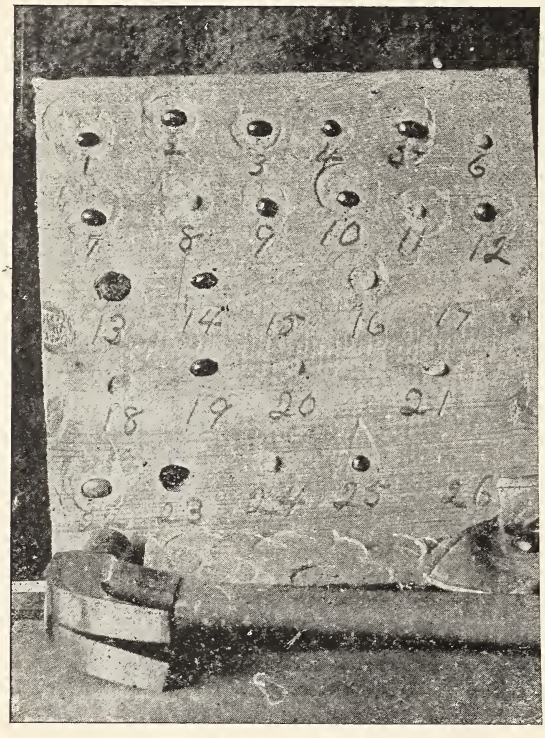
PILLS UNDER THE HAMMER.

SOME INTERESTING EXPERIMENTS WITH COATED PILLS.

By J. Fred Windolph, Brooklyn.

ABSTRACT FROM PHARMCEUTICAL ERA, DEC. 10, 1896.

A BLACK, shiny, gelatine-coated pill imbedded in a piece of pine wood board attracted my attention. It looked as if it had rolled into a dent in the wood, but it did not drop out when the board was inverted. Prying it out with a knife blade, I found in the wood a perfect impression of one-half of the pill. The pill itself was as round and handsome as gelatine-coated pills ever are, and, except for the dent of the knife blade, the coating was not broken or scarred.



The piece of board that excited my curiosity was about an inch thick and had formed half of the cover to an ordinary packing case. An examination of the other half of the box cover revealed another dent into which the upper half of the pill fitted exactly. If I could have found a gimlet hole leading to this dent from the other side of the board, I would have been almost ready to believe that the pill had been run in hot and been moulded there. But the tell-tale mark of a hammer blow told a different story. It was evident that the pill had been driven into the wood by a blow from a hammer, incredible as that seemed. To satisfy myself on that point, I placed the pill between the two boards, gave the upper one a sharp blow with a hammer, and the trick was done. The pill was imbedded half its thickness into the lower board. It struck me that it must be an ancient pill that would stand such usage. I opened a bottle of pills recently received from the maker, and to my surprise they penetrated the wood almost as readily. This led me to experiment with other pills as they came in from the jobber, with the results shown in the accompanying photograph. The board used was an ordinary piece of pine about an inch thick, such as is generally used in large packing cases. The pills were all bought in regular course of business fresh from the jobber, except in the few cases noted. They are all quite commonly prescribed and made on a large scale by all manufacturers, and the makers represented are those whose products are most frequently specified by physicians on their prescriptions. The bottles were opened as they came in and a pill from each was subjected to the test outlined above; in some cases, after the pill was imbedded in the wood, the smaller piece of wood was placed on end over the pill and it was driven further in, very much as the carpenter uses his punch in driving the head of a nail. Each experiment was numbered, and a record made of the kind of pill and the maker's name. The original bottles from which these pills were taken are now in my possession. After these experiments the board suggested very much the appearance of armor plate after a government test of some new projectiles. Some of the shots pass right through, others are imbedded at varying depths and some few make no impression on the target whatever. "Leaden Pills" have their place in military warfare; but the physician in battling with disease should select his ammunition for other qualities. I make no comment on the solubility of a pill, whether coated or uncoated, which is of sufficient hardness to penetrate a pine board. I feel justified, however, as pharmacist, in contending that the interests of the physician, the patient and the druggist as well are better served by pills extemporaneously prepared, or, in any event, by the use of such manufactured pills as are known to be in a permanently soluble condition. I appreciate the fact that ready-made pills are at times a convenience and that the habit of prescribing them is well established. The matter of solubility of mass and coating should be given consideration by the pharmacist and physician and preference shown for those pills which exhibit the drugs in the best form for ready assimilation and which lose that quality the least by reason of age.

Medical Therapeutics

Various Neuroses of the Larynx

In a "Note on Codeine," in the *Lancet*, Dr. James Braithwaite, of Leeds, says: "Codeine seems to have a special action upon the nerves of the larynx; hence it relieves a tickling cough better than any ordinary form of opium. One-half of a grain may be given half an hour before bedtime. It was in my own case that I first began to use codeine. For more than twenty years, usually once every winter, I have been seized with a spasmodic cough just before going to sleep, which becomes so severe that I am compelled to get up and sit by the fire. After an hour or two I return to bed and am free from the cough till the next winter. In other respects I enjoy good health. Many years ago I found that one-half grain of codeine, taken about two hours before bedtime, absolutely stops the attack and leaves no unpleasant effect the next morning. In cases of vomiting from almost any cause, one-quarter grain doses of codeine usually answer exceedingly well. In the milder forms of diarrhœa one-half to one grain of the drug usually answers most satisfactorily, and there are no unpleasant after-effects."

We find, however, that where there is great pain, the analgesic effect of codeine may not be sufficient, and a combination with antikamnia is required. It is best given in the form of a tablet, the proportions being 4¾ grains antikamnia and ¼ grain codeine. Sometimes chronic neuroses may be cured by breaking the continuity of the pain, for which purpose we have found this combination peculiarly suited.

Clinical reports in great numbers are being received from many sections of this country, which, while verifying Dr. Braithwaite's observations as to the value of codeine, place even a more exalted value upon the advisability of always combining it with antikamnia in treatment of any neuroses of the larynx, coughs, bronchial affections, excessive vomiting, milder forms of diarrhœa, as well as chronic neuroses; the therapeutical value of both being enhanced by combination. The tablets of "Antikamnia and Codeine," containing 4¾ grains antikamnia and ¼ grain codeine, meet the indications almost universally.—*The Laryngoscope.*

Muscular Soreness and Lagrippe Pains

℞ Antikamnia (Genuine).
Quin. Sulph.....aa grs. xl
Pulv. Ipecac et Opii.....grs. xx
M. ft. Capsules No. xx, dry.
Sig.—One every two or three hours.
—*Buffalo Med. and Surg. Jour.*