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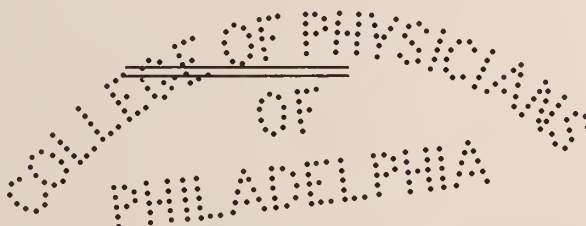
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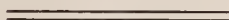
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Volume XII

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Number 1

CERTAIN ASPECTS OF INTESTINAL BACTERIOLOGY IN HEALTH AND DISEASE.*

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CHICAGO.

If one examines the feces of a healthy adult either stained or unstained under the high powers of the microscope, it will be found that the larger part of the fecal mass is made up of the bodies of bacteria. Remembering that the average bacterial cell is very small indeed, being but $1/12,000$ of an inch long, and $1/25,000$ of an inch in diameter, (2x1 micron), it is not surprising to find that careful studies by numerous investigators have determined that a normal adult on a mixed diet excretes daily a number of bacteria which is represented approximately by the figure 33×10^{12} . These bacteria dried weigh about 5.25 grams and they contain nearly 0.6 gram of nitrogen. About fifty per cent. of the total nitrogen of the feces is contained in the bodies of these bacteria which are so prominently represented in the fecal mass. It must be apparent that not nearly such a prodigious number of bacteria is taken into the body daily with the food, so that one is forced to assume that there is an amazing proliferation of bacteria in the intestinal canal which results in the regular excretion of them in the feces. These figures are striking but not at all improbable. It is well known that a bacterial cell may arrive at maturity, and reproduce in fifteen minutes, so that the progeny of a single organism under these conditions in twenty-four hours would be in the millions. Whatever interpretation be placed upon the intestinal flora, whether it be beneficial, indifferent, or harmful to the host the fact remains that the alimentary canal is a most wonderful incubator and cultural medium combined in which bacterial growth exceeds both in intensity and

complexity that of any known medium. It is not a matter of indifference what direction this intestinal flora takes; the acute intestinal diseases such as typhoid, cholera and dysentery indicate some of the possibilities which alien bacteria may bring about by their unrestricted growth, while the protective action of the normal nursing flora in suppressing putrefactive processes of bacterial origin within the intestinal tract is equally convincing evidence of the potential value of a healthy bacterial population as a protective mechanism to the host.

The recognition of the etiological relationship of alien bacteria such as typhoid or cholera to specific disease of intestinal origin is a very important chapter in medicine: a chapter which has opened brilliantly, but which has by no means even approached completion. The diagnosis of diseases of bacterial causation is fairly well established. The direct treatment of them however, has made but comparatively little progress. A consideration of the factors which influence bacterial activity in the intestinal tract will make clear at least certain principles which must be taken into consideration in the treatment of diseases of bacterial origin within it.

At birth the feces of the new born, the meconium, is sterile. After a longer or shorter time, usually within 18 to 24 hours, bacteria make their appearance, and the meconium begins to disappear. The kinds and number of bacteria which are found here depends largely upon the season and environment of the infant. This is a period of mixed infection. About the beginning of the third day, provided things are progressing normally, new types begin to assert themselves. These new forms are quite unlike those met with during the period of mixed infection. They are for the most part obligate anaerobes which are distinguished by peculiarities of morphology, staining reaction and growth in artificial media¹. These organisms are known as *B. bifidus*. They persist in relatively large numbers throughout the nursing period. With the advent of alien food, the bacterial flora again undergoes a change both morph-

*Read before the Milwaukee Medical Society, May 13, 1913.

ologically and dynamically. *B. bifidus* is replaced by *B. coli* and smaller numbers of other bacteria, all of which are more labile in their nutritional requirements than those of the normal nursing flora. This last change in the intestinal flora is the one which persists with moderate fluctuations throughout normal adolescence and normal adult life. A question most naturally presents itself: why do these rather definite changes in the intestinal flora from that of the nursing to that of maturity take place? The answer to this question is to be sought for in the dominion of biochemistry. These bacteria react definitely to changes in their environment and inasmuch as their environment may be practically summed up in the term 'food,' it is obvious that the observed changes of bacterial type and activity follow closely the alternations in the food presented to them. In the case of intestinal bacteria, this environment is the food of the host together with intestinal secretions and detritus. In the light of this conception, it is comparatively easy to explain the changes in the fecal flora from birth to adult life. The intestinal tract at birth is sterile because the uterine cavity is sterile. The first infection takes place adventitiously. Any organisms which enter by the mouth or through anus in the bath water, which can exist at body temperature will find lodgement in the intestinal tract and may temporarily grow there. Many of the bacteria which thus succeed in entering the alimentary canal are spore forming. During this period the food which is presented to them is largely detritus of fetal origin. At the beginning of the third day when the breast milk has had a chance to thoroughly permeate the intestinal tract new organisms appear, organisms which have a definite relationship to the type of food which is presented to them. It will be remembered that breast milk contains essentially 7 per cent. lactose, about 3 per cent. of fat, and but $1\frac{1}{2}$ per cent. of protein. Carbohydrate is therefore the dominant food. It is noteworthy that the organisms which appear in response to this diet are those whose metabolism is intimately associated with the utilization of sugar. These organisms thrive but poorly in a medium from which sugar is excluded. It might be predicted a priori that with this monotonous diet, breast milk, the flora of the nursing would be also monotonous, and such indeed is the case. When other foods begin to replace the breast milk, there is a

definite change in the types of bacteria represented in the intestinal contents. The obligate fermentative bacteria, such as *B. bifidus*, are replaced by more plastic forms as *B. coli* which can accommodate their metabolism rapidly to dietary alternations. *B. coli* for example can thrive equally well on a medium containing carbohydrate or a medium in which carbohydrate is absent. It might appear from this rather definite alternation of types of bacteria in the intestinal tract following changes in the character of the food, that the food alone determined the intestinal flora. It must be remembered in this connection however, that in addition to the food ingested by the host, intestinal secretions and intestinal detritus may be acted upon by bacteria as well, so that these latter substances have to be considered in discussing this question. There is a certain amount of evidence which would seem to indicate that both the intestinal secretions and detritus influence the kinds of bacteria which develop in the intestinal tract, for there is an unmistakable tendency toward individualism in the flora of adults which cannot be explained wholly by the composition of the food ingested by the host. This individualism which is more pronounced in adults, may be confined to special types of bacteria or to special types of chemical activity of bacterial origin which may be quite abnormal. The *essential* feature however, is the very direct relationship between food and bacterial response to it. This recognition of a relationship between food and bacteria in the intestinal tract is important in considering the intestinal flora for it correlates the metabolism of the flora with the effects which it produces rather than attempting to establish indistinct relations between the *morphology* of the flora and these effects.

A few words of explanation of this relationship of bacterial metabolism to changes in the food acted upon by them will bring out more definitely the importance of this discussion. For convenience only two types of food stuffs, the carbohydrates and proteins will be considered in this connection since these two types of food stuffs are those most closely concerned. It has long been known empirically that the presence or absence of sugar in media influences not only the nature of products formed by bacteria, but their growth as well. *B. bifidus*, for example, grows very feebly or not at all in a medium containing no utilizable sugar. If sugar be added to this same medium the organisms develop freely. The diphtheria

bacillus produces an extremely potent extracellular toxin in broth containing no sugar, but it produces no toxin whatever in the same medium containing utilizable sugar. Similarly the colon bacillus forms considerable amounts of indol, phenol, and other products of protein degradation in a medium containing no sugar, while it produces none of these substances in a medium containing sugar. On the other hand, organisms which are purely carnivorous, that is to say, which are purely proteolytic, produce precisely the same products in a medium containing sugar or a medium without sugar.

Based upon these considerations the intestinal flora may be conveniently divided into three types²: (1) *obligate fermentative type* which use protein but little and do not thrive in the absence of sugar, (2) *obligate putrefactive* or *obligate proteolytic type* which are strictly carnivorous and do not use carbohydrate at all, and (3) the *facultative type* which form products of protein degradation in media free from sugars, but practically no products of protein breakdown from the same media containing utilizable sugar. It should be remembered in this connection that the products of protein decomposition of bacterial origin are potentially more dangerous than those of carbohydrate decomposition. At least certain of the former are known to be strongly toxic and under certain conditions stimulate antibody formation. Antibodies are not formed from non-nitrogenous substances. The decomposition products of carbohydrate by bacteria are non-nitrogenous; probably they are never truly toxic, although they may be irritative. It must be evident, then that any method which shall tend to prevent the formation of protein decomposition products by bacteria is important in protecting the host against harmful influences of bacterial origin. Although it is a fact that the most prominent products formed by bacteria are either nitrogen containing or non-nitrogenous according to the scheme outlined above, this is not the whole story. Bacteria in common with all living cells exhibit two distinct phases in their life history, the anabolic, constructive, or structural phase, and the katabolic, vegetative, or destructive phase. The structural phase is attended by far less change in the composition of the medium in which bacteria are growing than is the katabolic phase. These two phases may be crudely illustrated by comparing bacterial activity with that of a locomotive. A locomotive is built

of iron and steel, it is run on coal and water. The structural phase is represented by the building of the locomotive. When the locomotive is completed the structural phase is practically finished, aside from small loss incidental to the wear of parts. The katabolic phase, running the locomotive in other words, is attended by a continual using up of material. In bacterial life, the structural phase is relatively insignificant, and it is finished, aside from loss incidental to the formation of ferments, etc., when the bacterial body reaches maturity. The vegetative phase on the contrary represents a steady consumption of material until the cell either dies or becomes inhibited in its growth by the accumulation of waste productions. Precisely as it is possible to measure the structural and fuel needs of a steam engine, so it is possible to measure the structural and fuel needs of the bacterial cell. It can be shown by a very simple calculation that the average bacterial cell weighs approximately .000 000 002 mg. It is not quite so simple to measure the fuel needs. One can measure the structural requirements of the locomotive directly by knowing the amount of material that entered into it, or indirectly by knowing the amount of material originally available and the amount of waste of this material after the machine is completed. All that is necessary in this case is to measure accurately the original material and the waste and the amount actually used up represents the difference. It is possible by a similar indirect method to measure both the waste from structural needs and the waste from fuel needs of bacteria. Bacteria in common with all known living cells need nitrogen to build up their bodies, and bacteria which interest us in this connection derive this nitrogen best from protein or protein decomposition production. As the result of the utilization of nitrogenous substances, either for fuel or structural purposes or both, a certain amount of ammonia (waste) is formed which measures fairly accurately the amount of protein breakdown to satisfy these needs. Ammonia is consistently liberated whenever protein is decomposed by bacterial action, consequently the increase in ammonia content of media in which bacteria are grown runs parallel to the destruction in protein, that is to say, it is a quantitative index of proteolysis. By comparing ammonia formation in media with and without utilizable sugar under the same conditions some idea of the protein decomposition in each can be obtained. A long

series of experiments carried out in this manner" shows conclusively that those bacteria which can utilize both carbohydrate and protein, break down but little protein in a medium where both are present, and that this protein breakdown is a fairly accurate index of the amount of protein degradation necessary to furnish the structural nitrogen for the bacteria. The 'fuel' is obtained almost wholly from carbohydrate in this case. The *same* organism in the *same* medium without sugar obviously must obtain both the *structural* and *fuel* requirements at the expense of the protein. The difference between the amount of ammonia observed when bacteria get both their *fuel* and *structural* requirement from protein, and that observed where the *structural requirement only* is obtained at the expense of protein, represents roughly the protein breakdown which the organism brings about in order to obtain those fuel requirements. It is obvious, inasmuch as approximately the same number of bacteria grow in medium with and without sugar, that the structural requirement will be practically the same in media with and without carbohydrate since the organisms remain practically the same size. The difference in amount between the ammonia formation in a sugar-free medium (where both the structural requirement and the fuel requirement are obtained from proteolysis), and that in a sugar containing medium (where the fuel requirement is obtained from carbohydrate, therefore sparing that amount of protein), represents quantitatively the sparing action which carbohydrate exhibits for protein. It is found in organisms which produce disease associated with toxemia such as diphtheria, typhoid, dysentery, etc., that this difference in ammonia production is relatively slight, that only about $2\frac{1}{2}$ times as much protein is broken down in a medium free from sugar as is the case in media containing sugar. If we compare these figures with those obtained from bacteria having less and less toxicogenic powers, organisms like the colon bacillus and *B. proteus* for example, it is found that more and more protein is broken down as the organisms depart from this pathogenic type. It is a significant fact that about the same amount of nitrogen is broken down by all of these bacteria in a medium containing utilizable sugar for structural needs. This would imply that their structural requirements are about the same and indeed such is the case, since all these bacteria grow at approximately the same rate, and are approximately

the same size. It might appear at first sight that the more strongly toxicogenic organisms should exhibit a greater difference in proteolysis when they are grown in media with and without sugar than the less toxicogenic organisms, because the differences in pathogenicity of the growths under these conditions are far more important physiologically. For example, the diphtheria bacillus produces a strong toxin in sugar-free broth, but no toxin at all in broth of the same composition containing sugar. Moderate reflection, however, would indicate that such should not be the case. The diphtheria toxin, for example, is generally regarded as being closely related chemically to the globulins, being therefore a highly complex protein. If the diphtheria bacillus were to break down the protein deeply, that is to amino acids, as the less toxicogenic bacteria tend to do, the resulting products would be relatively very simple in structure and non-toxic. In the human body also, if the typhoid bacillus were strongly proteolytic it would dissolve the tissue in which it grows. Such is known not to be the case. In other words the more strongly proteolytic the bacteria, such as *Bacillus proteus* which forms soluble products from the decomposition of protein, the more saprophytic are the types, generally speaking. Those organisms on the contrary which exhibit but little proteolysis, may form substances which are strikingly toxic and against which antibodies may be formed. It will be seen from these experiments that a change in diet may result in two distinct changes in the character of the bacterial metabolism. First, a suppression of their action upon protein which amounts virtually to a *reformation* of the bacteria because they no longer form toxic or putrefactive products, and secondly a direct suppression or even annihilation of the bacteria, due to the rapid accumulation of products which are inimical to their growth.

As an illustration of the dietary reformation of bacterial activity the administration of carbohydrates to typhoid fever patients may be cited, while the annihilation of bacteria by dietary means is illustrated by the suppression of intestinal infection due to the so-called gas bacillus by the restriction of carbohydrate and the administration of lactic acid milk. The gas bacillus will be discussed first.

This organism at times exhibits an unrestrained development in the intestinal tract due to the fact that it utilizes accumulations of carbohydrate with

extreme rapidity. As the result of the action of this organism on carbohydrate, a considerable amount of gas is formed, but what is of more importance, fairly large amounts of butyric acid. This latter acts as an irritant. Infections of intestinal origin with the gas bacillus are not true toxemias although the symptoms produced may suggest toxemia very closely because of the extreme prostration in acute cases.

There are three types clinically of gas bacillus infection. (1) An acute type which is more often met with in babies and young children although adults are not infrequently attacked, particularly in summer; in these there is prostration, fever, and blood, pus and mucus in the feces. These cases resemble very closely bacillary dysentery and even in adults there is little doubt that the diagnosis of bacillary dysentery is often made when in reality the patients are suffering from overgrowth of the gas bacillus. The rapidity with which such cases recover with appropriate treatment is at once evidence that the cases are not bacillary dysentery, for recovery is usually slow in this disease, and that there is no true toxemia. The second type of case, a subacute variety, is more commonly met with in adults and it merges imperceptibly into the third type, chronic cases, which are very much more frequent in adults than young children. In the acute cases recovery is usually rapid, following the restriction of carbohydrates and the administration of lactic acid milk which contains considerable amount of lactic acid preformed in it. The sub-acute cases respond also to this treatment, although somewhat more slowly. The third type, the chronic cases, not infrequently are very distressing. Cases are known in which the condition has persisted for ten or even twelve years without the causative agent being recognized. Usually these cases exhibit flatulence, which may be constant or more or less intermittent, abdominal pain frequently referable to the transverse colon and sigmoid flexure, irregular diarrhoea and the expulsion of much gas with the feces. Women are rather more subject to this type of disturbance than men and the attacks are likely to increase in intensity at the menstrual period. Not infrequently these patients exhibit hyperacidity and a gradual loss of weight which may continue for years.

Remembering that the gas bacillus, which appears to be the significant organism in cases of this sort, derives its pernicious activity from the

excessive fermentation of carbohydrate in the intestinal tract, the logical procedure from the bacteriological point of view is to eliminate carbohydrate from the diet and to administer buttermilk. The use of buttermilk needs a word of explanation. Buttermilk appropriate for administering in these cases should contain first of all a considerable amount of lactic acid. It should contain no spore-forming bacteria, no peptones, and should be populated by a very active culture of lactic acid bacilli. These lactic acid bacilli accompany the small amount of residual sugar which is in this milk through the intestinal tract, and in virtue of the acid they produce from it, protect it from attack by the gas bacillus. The preformed lactic acid together with the lactic acid generated *in situ* combine to render the intestinal content unsuited for the growth of the gas bacillus. It must be remembered that in conditions of this sort which have taken years to reach their present state, recovery is necessarily somewhat slow. These cases furthermore not infrequently are complicated by true streptococcal complications, either from auto infection from the upper air passages where a chronic bronchitis may exist, or from mouth abscesses or decayed teeth which have escaped observation. Such complications, although they may improve with the therapy indicated do not necessarily fully recover. In infections where a chronic bronchitis is present complete recovery will not take place until the respiratory embarrassment is over. It will be seen that in these gas bacillus infections advantage is taken of the organism in two ways: first by depriving them of that food stuff which enables them to develop with abnormal rapidity and secondly to superimpose upon this restriction of diet, lactic acid which is inimical to their well being. These methods are virtually methods of annihilation.

The second type of infection which is to be discussed in this connection is exemplified best by typhoid fever. Typhoid fever is a disease which originates in the intestinal tract, but in which the organisms after a comparatively short time succeed in penetrating the body.

Typhoid fever presents a number of interesting features. First of all there is an incubation period of about fourteen days during which time typhoid bacilli overcome the initial defense of the host, forcing it to retreat as it were before their attack. During this interval, which is frequently disregarded, irreparable damage may be inflicted

upon the host. This period is followed by the clinical disease. During the early days, the first week to be definite, typhoid bacilli may be found in the blood stream and there is weighty evidence that they undergo lysis there. The blood stream is their crematory. During their dissolution toxic substances are supposed to be liberated which act upon the sensitized host precipitating a series of reactions of anaphylactic origin. The patient rapidly loses weight, appears toxic,—the typhoid state—and either succumbs or convalesces slowly. The generally accepted theory attaches great importance to anaphylaxis as an explanation of the typhoid syndrome and some authorities are inclined to attribute the entire symptom complex to this phenomenon.

It is almost certain that such is not wholly the case: successive injections of enormous numbers of killed typhoid bacilli at intervals calculated to bring forth an anaphylactic reaction almost always fail to produce more than a purely temporary disturbance which is quite unlike typhoid fever either anatomically or clinically. On the contrary, *living* typhoid bacilli growing at the expense of body tissue of the host appear to be the more important factor. The causation of typhoid fever in man therefore has a very direct relationship to the metabolic products of the growth of *Bacillus typhosus*. If this supposition is correct it should be possible to modify somewhat the ordinary course of the disease, typhoid fever, through changes induced in the metabolism of typhoid bacilli, providing the initial damage brought about by them during the incubation period of the disease is not overwhelming.

Before discussing this possibility however, certain striking clinical events of a typical case of typhoid deserve mention. The marked loss of weight with the resulting emaciation is one of the most noteworthy of these. This loss of weight is associated with a greatly increased excretion of nitrogen and represents a destruction of body tissue which cannot be accounted for by a simple restriction of diet. This loss of weight is probably of triple origin, being due to the febrile reaction, to the restriction of diet and to a toxic loss, the latter being intimately associated with the production of toxins of bacterial origin. The febrile and the toxic losses are probably closely related etiologically. Simple starvation alone cannot explain this loss of body tissue for two reasons. This protein loss cannot be made good by feeding pure

protein, as would be the case in a healthy man. Indeed, feeding pure protein exaggerates this loss rather than diminishes it. A normal man on a restricted diet would hardly lose as much weight as the typhoid fever patient does in the same interval. The febrile reaction alone or in association with partial starvation also would not result in emaciation of such a degree. It is almost certain that the activity of *living* typhoid bacilli plays a not unimportant part in the production of this emaciation, for it has been shown that killed typhoid bacilli will not do this. In this connection some carefully conducted metabolism studies in typhoid fever carried out by Coleman and Shaffer⁴ are particularly illuminating. Coleman and Shaffer found that a diet rich in carbohydrate, containing only a moderate amount of protein largely prevented or at least compensated for the loss of body protein nitrogen. At first sight it might appear that this retention of body nitrogen was purely a physiological phenomenon. Physiologists have long known that carbohydrates spare body protein. This explanation is almost certainly true in part, but it is not the whole explanation. Purely nitrogenous food not only fails to restore the loss of nitrogen: such food will almost invariably bring about a further loss of body nitrogen. Again the toxic symptoms tend to decrease on the diet rich in carbohydrate but appear to increase on a purely protein diet. It is rather difficult to reconcile this change in toxic symptoms with a purely physiological phenomenon such as a passive sparing of body protein loss. In the light of what has been stated above about bacterial metabolism this retention of body weight and particularly the diminution in toxemia observed in cases of typhoid which have been fed a diet containing relatively large amounts of carbohydrate, is in harmony with the results which might be expected a priori from purely theoretical considerations. The administration of large amounts of carbohydrate tends to change the character of the products formed by the growth of the typhoid bacillus. In the absence of carbohydrate, both in the intestinal tract and in the tissues, the bacilli are forced to obtain both their structural and fuel requirements at the expense of protein. The addition of utilizable carbohydrate, be it in the intestinal tract where this carbohydrate acts directly, or indirectly in the body where the carbohydrate circulates as dextrose in increased amounts in the blood stream up to the physiological maximum (about 0.15 per cent.),

the typhoid bacilli now obtain their fuel requirements from sugars although their structural requirement must be obtained from nitrogenous substances as before. It has already been indicated that the fuel waste rather than the structural waste is the more significant factor in interpreting bacterial activity, hence the utilization of carbohydrate by the typhoid bacillus resulting as it must in the formation of substances like lactic acid instead of substances which contain nitrogen, (which are probably decidedly harmful to the body) results in forcing the typhoid bacilli to act upon the defensive. This is of benefit to the patient in two ways. First, a restriction of the formation both qualitatively and quantitatively of substances which are nitrogen containing and inimical to the host, and secondly, a suspension of offensive activity which permits the host to rally earlier his defensive mechanism, thus placing him in a much better position to bring the battle to a successful termination.

In addition to changes in metabolism of the typhoid bacilli certain other changes in the intestinal flora are almost certain to follow. The colon bacillus for instance forms lactic acid in the presence of a diet rich in carbohydrate and this lactic acid tends automatically to restrict the activity of typhoid bacilli which may be in the intestinal tract. Also this change in metabolism of the colon bacillus lightens the load on the liver and kidneys. On a diet rich in protein the colon bacillus forms indol and other products of protein breakdown, some of which are absorbed from the intestinal tract and must be paired in the liver and excreted through the kidneys. Furthermore this change in diet is, as has been pointed out previously, a physiological one. It furnishes the host with fuel energy which can be utilized with a minimal expenditure of digestive energy. It should be stated in this connection that rather small feedings frequently repeated are indicated in cases of this sort for reasons which are perfectly obvious. Certain dangers might be predicted which would arise on a diet rich in carbohydrate. The gas bacillus which has been discussed above might conceivably gain the upper hand in the intestinal tract, invade the body through the injured intestinal mucosa and even cause death. This danger is more apparent than real, however. If there is reason to suspect that the gas bacillus is present and it might be added parenthetically that the writer has never seen a case of typhoid in which the gas bacil-

lus has been demonstrated, the very simple expedient of feeding buttermilk will almost without fail suppress this undesirable complication. It might appear that diabetics would either not have typhoid or be subject to very mild infection in consequence of the considerable amount of sugar which circulates in their tissues. It must be remembered in this connection that the resistance of the tissues must and does play a prominent part in suppressing bacterial invasion and that this suppression of bacterial invasion is exhibited only by living tissue. It is a well known fact that at death even the most healthy tissues are rather promptly invaded by bacteria. It must be apparent therefore that the lowering of the tissue resistance which is a feature of diabetes would tend to offset any benefit which might be conferred by the presence of sugar in any considerable amount, so that the resultant vulnerability to typhoid invasion would be difficult to predict a priori.

To summarize: Evidence has been presented which indicates that the nature and extent of bacterial metabolism may be influenced profoundly by the character of the food presented to them. Given their choice most bacteria will act upon carbohydrate in preference to protein when both are offered to them simultaneously. The carbohydrate spares the protein in this sense from bacterial attack. This sparing action is not complete however, but it results practically in the exclusion of nitrogenous products incidental to bacterial development, some of which may be toxic, and substitution for them of non-nitrogenous substances which are never truly toxic although some of them may be irritants. This evidence has been introduced merely to indicate how the principle involved may be taken advantage of in the treatment of certain types of bacterial diseases where the anatomical conditions are such as to make available carbohydrate for the invading microorganisms. The object of introducing relatively large amounts of carbohydrate is a two-fold one: (1) to provide the patient with readily assimilable food which requires a minimum amount of digestive energy to prepare it for tissue needs. This carbohydrate appears to be utilized by the bacteria in preference to the body tissue for their fuel requirements so that the resulting products of their activity become non-nitrogenous and almost without exception non-toxic. This shifting of bacterial metabolism from protein to sugar deprives these organisms of their most potent weapon of de-

fense, compels them to act on the defensive while it permits the host to rally and strengthen his offensive and defensive powers earlier in the course of the disease. The course of the disease will be influenced by it aside from damage accomplished during the initial struggle when the invading organisms had the patient on the run as it were. This initial damage cannot be accurately estimated and in all probability cannot be undone. The final struggle however, between the host and the parasite almost certainly can be influenced directly and favorably.

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NON-SURGICAL TREATMENT OF OTITIS MEDIA.*

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WAUPACA.

The non-surgical treatment of otitis media is a subject which is of importance, not only to the otologist, but to the general practitioner as well.

Otitis media, in the vast majority of cases, results as a complication of a cold or of some acute infectious disease, and, therefore, usually falls first into the hands of a general practitioner. As the dangers of otitis media are great, and as the correct early treatment means a great deal in the later course of the disease, it is very important that the general practitioner should know and be able to give the proper treatment as soon as the case presents itself. If the disease is not treated promptly and correctly in its acute stage, it is sure to go on and result in a chronically suppurative, discharging ear; and thus become a serious and troublesome problem to the family physician. Not

only this, but it is also a great discomfort and danger to the patient. To have foul smelling pus discharging from the ear is a disagreeable and disgusting affliction and, as it indicates a destructive process in the ear, it is also an indicator of danger to the patient.

The middle ear cannot long be the seat of a suppurative discharge without causing serious and permanent changes in the delicate transmitting apparatus contained within. First the drum membrane is destroyed, then the ossicles become denuded and necrotic and are thrown out in the discharge. Thus destruction of tissues goes on, until gradually they are all destroyed and the hearing, which has gone from bad to worse, is lost entirely, beyond all hopes of recovery.

In addition to this local danger, there is in all cases of otitis media, both acute and chronic, the ever present danger of extension of the destructive process into the surrounding important and vital structures, there causing serious, and, in a large number of cases, fatal complications. The most common of these complications, and we might say the main doorway to the other complications, is mastoiditis. It is as a result of mastoiditis that we get lateral sinus thrombosis, meningitis, facial nerve paralysis, and many other such serious affections. But I need not dwell upon the dangers of otitis media, as we all realize and see frequent examples of them. It is because every physician knows of the long list of grave dangers that surgery has been resorted to a great many times when it was not necessary. From fear of complications, many physicians rush into surgery on the slightest indication, when, if they had gone slowly and used conservative measures, they would have accomplished the same result with far less danger.

I do not mean by this that surgery is a bad thing, and should never be resorted to, but I do mean that it should not be resorted to unless properly indicated. And in all cases, except the very acute and rapidly destructive ones, the one strong indication should be that medical treatment has been given a fair trial and has failed to show any appreciable benefit. Simply because a patient has an otitis media and develops a slight mastoiditis, is no indication to go right ahead and perform a mastoid operation. Mastoiditis is such a frequent complication of otitis media that it may be considered a part of the disease and treated as such. As mastoiditis is always the result of the otitis,

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it would seem very practical to remove the cause of the mastoid trouble by treating and curing the otitis. And if we can cure the otitis media by conservative means, there is no reason for applying dangerous surgical measures; as time and experience have shown that the only operations which are of any benefit to middle ear disease, including mastoiditis, are the very radical and therefore dangerous ones. Of course, there are cases of rapidly destructive processes or cases of chronic mastoiditis with large cholesteatomatous masses in the antrum, aditus and attic where surgery alone will give relief. Again we find a few cases which will not respond to medical treatment. In all such cases, surgery is the only relief, and should be resorted to.

Although the subject of this paper is non-surgical treatment of otitis media, I do not mean to adhere strictly to non-surgical treatment; because there are minor surgical procedures which are very necessary to proper medical treatment. Removal of adenoid growths and polypi, and paracentesis of the drum membrane or cauterization of granulations, are all, strictly speaking, surgical procedures, but all are very necessary to the proper treatment.

The object of our treatment, whether the case be an acute otitis, or a chronic otitis, or any of the complications of either, should be to do away with the pathological condition and not merely to get rid of some one troublesome symptom. For instance; in acute otitis, the object should not be to stop the ear ache and give the child relief from pain, but to cure the acute inflammation causing the pain. Nor should the object in chronic otitis be to stop the discharge, with no thought of removing the pathological conditions which are causing the discharge.

Keeping this object ever in view, toward what should our treatment be directed to bring the desired results?

First of all, it should be directed toward local conditions causing or influencing the disease. In every case of otitis media the nose and nasopharynx should be carefully examined, and any existing abnormal condition corrected. The most frequent cause of otitis media is some obstruction of the eustachian tube, whether it be due to an acute inflammatory process or to some abnormal growth obstructing its opening in the fossa of Rosenmueller. Acute inflammatory conditions affecting the nasopharynx will naturally also af-

fect the nasal end of the eustachian tube, and then follow along the tube, to the middle ear. In children with a chronic otitis not due to measles, scarlet fever or diphtheria, the cause is almost invariably found to be adenoid growths. Likewise in adults a frequent cause is a small polyp in the fossa of Rosenmueller obstructing the eustachian opening. As prophylactic or preventive medicine is far to be preferred to curative medicine these conditions should be cared for before they produce any further trouble.

(The aural side of the middle ear should also be examined and treated, as will be described later.)

Treatment should also be directed toward the general health of the patient. General conditions should be made such as to favor good general health, by correct diet, regular habits and general tonics. If there is a specific history, or a tuberculous tendency, special attention should be given to them, as that may be the only thing necessary to cure the aural pathology.

This brings us then to actual treatment, and we find that there are five distinct principles which should be carried out in all cases, acute or chronic. They are:

FIRST: The prevention of the disease, if possible;

SECOND: The removal of the cause of the disease.

THIRD: Drainage and removal of secretions.

FOURTH: Sterilization of parts and prevention of sepsis, and

FIFTH: The use of medicinal agents to assist nature in restoring the diseased parts to normal.

The first principle, that of prevention of the disease, if possible, is very important. We are just entering an age where preventive medicine is to play a large part in the care of the human body.

People are beginning to realize that prevention is a very important principle and in place of exposing children to measles and scarlet fever in order that they may contract the disease and be done with it, they are now trying to avoid exposure in order that the child may avoid having the disease at all, and thus escape unnecessary dangers.

This principle has already been touched upon with relation to otitis media. It has been shown that a great many cases of middle ear diseases can be prevented by correction of pathological conditions in the nasopharynx; or by proper care of the

nasopharynx during acute inflammatory conditions of the upper respiratory tract. If people could be educated up to having pathological conditions corrected before they cause trouble, a large percentage of middle ear trouble could be cured, even before coming into existence.

If the patient does contract otitis media; either from preventable or non-preventable causes; it then rests with the attending physician whether or not the case shall go on and become chronic. With proper treatment during the acute stage the chronic stage can be prevented; if not by conservative at least by radical measures.

But as long as the earth is inhabited by human beings, there will be some who will delay prevention until it is a little too late, and they develop middle ear trouble.

For these cases, and for cases of non-preventable otitis, the proper treatment should be instituted as early as possible, and an attempt made to cure the existing disease and prevent any further trouble from developing.

The most important principle in the actual cure of the disease is nothing more than the principle of prevention applied after the onset of the disease. When the disease is actually in existence the most important factor in the cure is to remove the cause. If it exists as a complication of an acute infectious disease, the acute infectious disease should be treated, and cured as soon as possible, and, if it is the result of pathological conditions, these pathological conditions should be corrected at once, and everything made as near normal as possible. If this is not done, but the cause of the disease allowed to remain, it will be almost impossible to cure the trouble, and if cured, it will be almost certain to return.

The third principle is one of the most important, and one which cannot be neglected. It is here that the physician must exercise patience, and painstaking care, as thoroughness is what determines the success of this treatment. Perfect drainage should be established, and, as nearly as possible, all secretions should be removed, and kept removed. For this purpose, we find many various methods, each of which has its special value in special cases.

First of all, we must have an outlet to the secretions, through the shortest route, which is, of course, through the aural canal. In chronic cases, nature has already established the drainage by perforation of the drum membrane. But in acute

cases, the establishment of drainage should not be left to nature, but should be brought about by paracentesis of the drum membrane as soon as there is any sign of secretion. The promptness with which drainage is established determines, to a great extent, the number of complications, and the amount of destruction to the vital tissues. While nature will itself create drainage, it is only after more or less intra-aural pressure, which forces secretions through the aditus into the antrum and mastoid cells, or which causes death and destruction of tissues by interfering with their blood supply.

While simple puncture of the drum membrane in a great many cases is sufficient to cure the disease, in a great many cases it is not sufficient, and we must institute measures to aid drainage. (In chronic cases, it will sometimes be necessary to cauterize granulations which are blocking the outlet to the secretions.)

One of the most effective ways of cleaning out the secretions is by politzerization. A eustachian catheter is introduced in the fossa of Rosenmuller, and air forced through the eustachian tube and middle ear with moderate amount of force. This method is very effective and can be used in either acute or chronic cases. The operator should make sure, however, that the fossa of Rosenmuller is clean. The objection is sometimes raised that secretions might be forced into the accessory sinuses, but there is absolutely no danger of this if the ear drum is perforated. The advantage of this method over other methods is that a much greater degree of cleanliness can be attained than with other methods, because it cleanses inside the drum membranes as well as in the aural canal.

Irrigation is another very popular method, and a very good method, of cleaning out the excessive secretion, especially in acute cases. Sterile, warm normal salt solution is the best solution to use because it dissolves the albuminous substances.

Suction, with a specially constructed apparatus, is also very effective, being simply a reversed politzerization.

Others, again, believe that what is called the dry treatment is best. This consists in mopping out the pus with applicators two or three times a day. A method like this, however, could hardly be carried out by a busy general practitioner, because of the attention it requires, except in chronic cases where one mopping a day would be sufficient.

Another very good method is the wick treatment, which seems to bring the best results in the very acute cases. A gauze wick is introduced, so that one end touches the drum membrane, and thus draws the secretions out of the middle ear by capillary attraction.

Cleansing agents are also used but the only one which has any special merit is the peroxide of hydrogen, which is very useful in dissolving and softening the crusts which are bound to form in acute cases.

As an aid to any or all of these methods, correct position is very important. The patient should lie with the affected ear down in order that gravity may do its part in getting rid of the secretions.

While any one of these methods is effective, to reach the highest degree of effectiveness two or more should be combined, so that the shortcomings of one may be offset by the advantages of another.

In acute cases, politzerization or irrigation, once a day, together with the wick treatment, and the proper position, is a very good routine treatment, while, in chronic cases, politzerization and the dry treatment, or mopping out, seems to meet best all indications.

The fourth principle of treatment is the sterilization of the parts and the attempt to keep a sepsis. Any existing sepsis, should be done away with as soon as possible by the use of antiseptics, and great care should be taken not to introduce any new infection. We have two methods of applying antiseptics; one is locally by irrigation or instillation; and the other is by administering drugs which excrete antiseptic substances in the ear.

Any antiseptic may be used for the former, but the one drug which stands out from any other for the latter method is hexamethylenamine or urotropin. This, when taken into the body, is excreted in fairly large quantities by the living membrane of the middle ear and mastoid cells as formaldehyde, which acts as an ever present antiseptic. It should be given in ten grain doses every four hours, and the urine watched for any sign of irritation of the kidneys.

Medicinal agents should be used locally to assist nature in restoring the diseased tissues to normal. Astringents, stimulants, alterative desiccants, caustics and absorbents should be used as indi-

cated, and applied according to either of the following methods which seem indicated.

In all acute cases the only practical method of applying medicinal agents is by irrigation. The solution may be any of the astringent antiseptics, but should be used in large quantity and of a temperature between 90° and 100° F. The ear should always be dried out thoroughly after each irrigation. (There is one objection to irrigation and that is the maceration of tissues it causes.)

Insufflation of powders, such as boric acid and aristol, is sometimes advised, but is a very poor method, as the powders dry and cake, thus interfering with perfect drainage. Where powders are used, the ear should be cleaned and examined frequently.

The main use for local applications of medicine is in chronic cases, and the method best applicable here is instillation. The ear should first be thoroughly cleaned out, and then a few drops of medicine introduced. As chronic otitis depends a great deal upon involvement of the antrum, and as the antrum opens into the middle ear through the aditus, which opens into the posterior part of the middle ear, it is very necessary that the medicine should reach this locality. This can be accomplished by placing the patient in the proper position. First the medicine should be introduced with the head in a horizontal position, the affected ear uppermost. After allowing time for the medicine to pass through the opening in the drum membrane, the head should be changed to a position lower than the shoulders, with face upward, so the medicine may gravitate to the upper, posterior part of the middle ear; the locality of the aditus.

This is the only method by which the aditus can be reached, and is therefore the only method of any benefit in chronic otitis, which is practically always dependent on affection of the antrum.

Alcohol is the drug most commonly used for instillations and usually brings good results. It seems to be the drug best adapted to fulfill all requirements. It not only acts as an antiseptic and dehydrating agent; but, where we have granulations, it tends to devitalize and shrink them. The solution used should be ninety-five per cent. alcohol, if the patient can stand it. If the 95 per cent. causes too much pain, a 50 per cent. solution may be used to begin with, and then gradually increased to full strength.

Only recently experiments have been made with

injection of bismuth paste in chronic cases of suppurative ears, but this has shown no special value.

There are many other drugs and methods which might be mentioned, but none have any marked advantages over those already mentioned.

The main thing, in the treatment of otitis media, is to have as your object the removal of pathological conditions.

With this object in view, try to prevent the disease, if possible. Failing to prevent the disease, let the first steps in your treatment be to remove the cause of the disease; and then establish drainage, create and maintain asepsis and assist nature by the use of medicinal agents to restore the tissues to normal.

If this fails to bring about desirable results after fair trial, do not delay surgery, but resort to whatever operative measures seem to promise relief.

DISCUSSION.

Dr. A. L. PAYNE, Eau Claire:—This is an interesting subject and the paper is very interesting. I find considerable difficulty in having patients with purulent otitis media lie on the affected side, as they often complain bitterly of pain by so doing.

I bring to mind a recent case in my own family. I was surprised one evening to see my son, aged 20, who was away at college, step into the office, he was complaining of cold in the head and severe ear ache, in fact the ear ache was what prompted him to come home. Upon examination I found acute sinusitis, and catarrhal otitis media, drum heads greatly inflamed, with little if any bulging.

I made a smear of the muco-purulent discharge from the nose, and found a mixed infection, pneumococci staphylococci and streptococci. I injected the initial dose of bacterins, treated the nose, the next day the temperature was high, but on the third day lower, so I gave a second larger dose of bacterins and with the second injection and nasal treatment there was complete recovery, not only of the catarrhal otitis media but of the sinusitis.

I want to impress upon my hearers that it is important to make a smear of the discharge from the nose before you get a bulging of the drum head, because often you can entirely relieve the condition by using the bacterins and nasal treatment. The Doctor, I think, did not speak of the bacterin treatment.

Urotropin I always give, although I give it in five grain doses, every four hours, instead of ten grain. I give the smaller dose, for the reason that the larger doses are more irritating to the urinary tract, once in a while we will have a disturbance of that tract even by the smaller doses.

If the drum head is bulging, I always perform paracentesis and use Bier's method of suction (that is Bier's hyperemic treatment), and suck the fluid discharge from the middle ear, of course always paying attention

to the nasal condition, I invariably make a smear of the discharge from the middle ear and use bacterins accordingly. In a great many of the cases I have had pleasing results, however, within the last ten days, my bacterin treatments have been rather disappointing. In several cases under treatment, there has been little or no reduction of the discharge. Just why this is I do not know, but in each of these I found a mixed infection and used Mulford's mixed bacterins, but not in one of these cases have I gotten the results that I have heretofore.

In chronic cases I think the treatment that the Doctor has outlined is as good as anything I know of.

Dr. SAMUEL C. HIGGINS, Milwaukee:—Just a word on this paper of Dr. Mortenson's, which has covered the subject very thoroughly from the usually accepted point of view; and I would like to emphasize some of the points.

In the first place I would like to say that anyone seeing these cases of acute otitis media should not delay making an incision when there is bulging of the ear drum. The loss of hearing comes from prolonged pressure on the ear drum which results in destruction of the tissue of the membrane; so that finally a hole is produced. This destruction of tissue is permanent, and people aged 30 and 40 and 45 years, who come for treatment of their deafness, after having had these abscesses in childhood, are those where the ear drum has never healed, and when the contraction took place their loss of function is much greater than it would be otherwise. By incision I mean of course not a mere puncture, but with the use of a lance or Graefe cataract knife, a free incision is made extending from the upper posterior quadrant down the curve through the inferior posterior quadrant and forward to the inferior anterior quadrant of the drum membrane—it should be a free incision—and very often even that heals over and you have to repeat the incision; but when the drum membrane heals it heals completely, and in children the hearing is absolutely normal and continues so afterwards.

I do not care much for the use of hydrogen peroxide as cleaning solution in the middle ear, as I have a fancy that the bubbling may carry infection up into the attic and into the mastoid.

Occasionally there is mastoiditis which apparently is primary and not due to the middle ear itself, when of course treatment has to be directed primarily to the mastoid.

Dr. Mortenson covered the subject very well and the new idea now, which has been discussed and which appears more in the literature of 1912 than it ever has before, is a necessity for nasal treatment of ear disease and particularly for ear abscess. It will do no harm at least to irrigate a nose which has been the subject of influenza or an acute rhinitis which was a causative factor in the production of the otitis media. It is not always easy to do that in children, but it is possible even there to apply by the dropper .5% cocaine solution, which relieves the nasal congestion. There is no doubt in my mind but that the new thought in the treatment of otitis media should be directed not only to the ear but to the nose and nasopharynx, and that

strengthens Dr. Mortenson's report on the non-surgical treatment.

During the past two winters I have had very few mastoid operations, due I think to the use of urotropin internally and nasal treatment in cases of acute otitis media. They have not had to go on to mastoid operation, nor have mastoid complications occurred.

DR. A. L. PAYNE, Eau Claire:—The meaning of my talk on paracentesis may have been misunderstood. I am a thorough believer in paracentesis where there is pressure or bulging and believe in the large semi-circular openings.

DR. F. S. COOK, Eau Claire:—One point I would like to emphasize in the treatment of these cases, especially by the general practitioner, is in the use of narcotics, morphine, opium, aspirin, etc., to control the pain of middle ear infection. It has been my experience that the persistent use of it conceals complications. I have had two or three cases of mastoid complications which were concealed quite a while by the use of those drugs; and I believe it is a good plan to let the patient suffer some pain, and also have an early operation in mastoid complications, because I believe we carry our case through faster and get better results and less impairment of hearing by the early operation in mastoid complications of middle ear infection.

DR. G. WINDESHEIM, Kenosha:—I am not a nose, throat and ear specialist, but as a general practitioner I have had a number of cases—perhaps more than is really my share. It has been my practice to treat infections of the nose, throat, and ear the same as I would treat infections anywhere else, that is with opening, drainage and as much as possible antiseptic applications. In all cases where I think otitis media might follow, such as measles, scarlet fever, etc., I make it an invariable practice from the beginning of the disease to have the nose thoroughly irrigated at least every two hours with normal saline solution, or where there is a pyogenic organism present, I use a mild antiseptic solution. In cases where the ear has already become involved, where there is pain, I have often found that these irrigations of the nose will relieve the pressure by opening the eustachian tube, and where the membrane is not bulging, I simply use an application of from five to eight per cent. of carbolated glycerin and a little cotton, renewed every four or five hours.

Where the membrane is bulging and the pain is unrelieved I incise the membrane and put in the carbolated glycerin. It is a well known fact that carbolated glycerin will relieve the pain almost immediately and there is no necessity for opiates.

In chronic cases I have had experience with three or four cases where the patient had been treated for four or five years by so-called ear specialists. In one case especially I was called to where a young lady had been treated for four or five years by a so-called ear specialist, and she was vomiting, had severe headache, was practically insane almost from the headache. When I examined the ear I inquired into the history I found there was a history of chronic otitis media. When I examined the ear I found it completely closed by an exudation, what appeared to be a hardened mass of

powder that had been blown into the ear. When I removed that mass which was quite thick, there was a profuse discharge of the most ill smelling pus I ever encountered. I wiped out the ear and treated it as I usually treat chronic suppuration of the middle ear, and the patient recovered very quickly. I never use powder in chronic otitis media, but I wipe out the ear or have the patient wipe it out about three times a day with cotton on a toothpick, and instill into the ear a mild antiseptic solution. I generally use the national formulary antiseptic solution and add to it about $\frac{1}{4}$ % of formaldehyde.

This treatment in my hands has been very satisfactory, and where there is very much discharge keeping up for any length of time, I also use in those chronic cases a very light loose wick of absorbent cotton dipped in carbolated glycerin. In addition to that I use the Politzer method of inflation, after previously irrigating or syringing out the nose and the nasopharynx, so that any substance that is in the nose or nasopharynx will not be blown into the ear.

In that way I have succeeded in relieving many cases of middle ear disease.

DR. O. N. MORTENSON of Waupaca (closing):—I cannot add much to what has already been said. The discussions were all very good. I think the first doctor's suggestion of the bacterin treatment is excellent.

Concerning urotropin, however, I do not believe five grain doses, given every 4 hours, will be of any benefit in the mastoid cells which are so often the cause of chronic cases persisting, I therefore give the ten grains every four hours.

It has been shown that where five grain doses are used formaldehyde is not excreted in the middle ear and it is of benefit there. Of course the urine should be carefully watched and with the appearance of irritation signs, the urotropin stopped.

RADICAL OPERATION FOR HERNIA UNDER COCAINE ANALGESIA, EXPERIENCE IN TWENTY-FIVE CASES.

BY R. G. SAYLE, M. D.

MILWAUKEE.

The object of this paper is particularly to give my own experience in operating for hernia under cocaine analgesia. I was induced to begin this method of operating four or five years ago through reading one of Dr. Bodine's articles commending this method, previously advised by Drs. Cushing and Bloodgood of Baltimore, for cases in which for some reason general anesthesia was contraindicated. While this paper deals particularly with the inguinal variety, my cases number twenty-six to date including umbilical herniae. In character these were obstructed, adherent, oriental, and un-

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complicated herniae in male patients ranging in age from young adults to quite advanced years.

In the selection of cases Dr. Bodine passes by children and individuals possessed of much adipose tissue. He today takes the position that all other cases of hernia are fit and proper subjects for this method of operation and I recently heard him say, with considerable impressiveness, that this method only should be employed in cases of strangulated hernia. I have followed his rule of selection except in cases of large obstructed hernia. The youthfulness of the patient operated upon by this method must depend much upon the excitable character of the child. Dr. Bodine has operated upon a child of ten years with much satisfaction.

It is possible to follow any of the ordinary methods of dealing with the defects caused or produced by hernia under cocaine analgesia.

The method involves special consideration of some points in the anatomy of the hernia region, preparation of the patient, the cocaine solution, the hypodermic syringe and needles, the cocaine injection, instruments and execution of steps in the operation.

The Anatomy.—There is a marked difference in the thickness of the skin of different subjects as well as a like difference in thickness of the skin along the line of incision in any one subject. The thinner the skin the more difficult it is to properly infiltrate with cocaine solution. This must be endermic, almost epidermic.

The control of painful sensation is the keynote to success and a knowledge of the nerve supply, but more especially of their location and how to find and block them is of paramount importance in the operator.

We are concerned with cutaneous nerves in the line of incision, the ilio-inguinal and the ilio-hypogastric and occasionally the genito-crural as trunks and when dealing with the peritoneum and any possible hernial contents we are outside of the somatic nerves and dealing with the nerve plexuses within the abdominal cavity.

In my experience the practical points in dealing with the nerves are about as follows; Sensation in the incision line is controlled directly by infiltration of the skin. There is a sensitive area in the fascia about the external ring from the genital branches of the genito-crural nerve which needs direct attention. The ilio-inguinal and the ilio-hypogastric nerves are found on splitting the

fibres of the external abdominal sheath, between the latter and the underlying structures not far away from the internal ring, as a good size trunk alone or separated into two or three branches. They lie in this region and pass downward over the structures of the cord or arching fibres of the internal oblique and this supply controls nine-tenths of the sensation with which we are concerned beneath the skin. Any scattered nerve supply remaining as evidenced by slight flinching must be met by continuing infiltration to meet the same during the progress of the operation. On approaching the vas deferens the genito-crural supply is encountered and may not have been blocked. The peritoneum can be deadened by direct infiltration. Bluntly lifting the cord from its bed is sometimes painful.

Finding and cocainizing large sized nerve trunks controls almost all sensation except the peritoneum. The omentum may be tied and cut without pain. Breaking up adhesions of the omentum before the peritoneum is anesthetized hurts, Gentle handling of the bowel is not painful but pulling on its mesentery will cause nauseating distress. Remember that the point of close association of the vas and sac at the internal ring is sensitive.

The Preparation of the patient.—The preparation of the patient begins with the selecting of him for this particular method of operation; he is not too fat because of our inability to properly cocainize the skin and subcutaneous tissues as well as the difficulty of the necessary retraction and exposing the deeper parts for anesthesia; he is not too young nor too nervous to exercise some judgment and understanding about the necessary small amount of pain unavoidable in some steps of the operation. I inform him that he will feel the first needle prick and occasionally throughout the operation I may accidentally or unavoidably hurt him a little, but that it will be nothing of consequence nor nearly as much to be feared as the entering of a dentist chair for the filling of a tooth. I impress him with the fact that it will be of great advantage in the cure of his hernia, obviating as it does the dangers from vomiting which follow general anesthesia as well as the disagreeable nausea and after affects from the same. A half-hour prior to beginning the operation the adult patient receives $\frac{1}{4}$ of a grain of morphine and $\frac{1}{150}$ of a grain of

atropine sulphate by hypodermic. The meal immediately before the operation is omitted. Nurses and assistants are instructed to suggest nothing undesirable and to demean themselves as though the procedure were not uncommon or new. The patient is placed upon the operating table with legs crossed or in any easy position, the arms are put across the chest, preferably supported in this position in a sling.

It is not advisable to ask the patient if he is afraid or expects to be hurt, but I make it a rule to speak to the patient just prior to the operation and reassure him of my previous promise that he will experience nothing but slight distress and that he will likewise be able to soon take nourishment, smoke a cigar or take a chew of tobacco if he indulges in such habits. I need not mention the necessary local preparation.

Cocaine Solution.—I first used Schleich tablets with $1/5$ grain cocaine, one tablet to one hundred minims of water for the skin and nerve trunks and one to two hundred minims for other tissue infiltration. I now make a solution of one grain of cocaine to one ounce of normal salt solution for the stronger mixture, dilute this one-half for the weaker solution. I seldom use more than $1/3$ or $1/2$ grain throughout the whole time of the operation including what leaks and is lost.

Syringe, Needles and Instruments.—The hypodermic syringe must be in perfect working order and the needle points perfectly sharp and as thin as is compatible with strength sufficient not to bend too easily. Knives must be sharp, scissors in perfect cutting condition to the very tips of the blades, the blades thin and preferably curved on the flat. Hemostats should be fine pointed and tissue forceps fine toothed.

The Operation.—A short description of the steps in the operation and meeting the difficulties may be of interest to some of you.

With the patient on the table as described and the nurse or other person at the head of the table to partly occupy his attention, the line of the intended incision is fixed in the eye of the operator and the hypodermic needle charged with one to five hundred solution introduced, beginning about two inches above the location of the internal ring. It is important to turn the eye of the needle point toward the skin and insert the same only deep enough to bury it so that no leakage occurs on the surface when the solution is pressed out. The proper necessary result is the production of a

very superficial white wheal. Make the wheal of good size, never less than $1/2$ inch in diameter and moving downward in the line of the intended incision, reinsert the needle in the margin of the wheal made producing a second, and repeat the procedure as far as it is intended to carry the incision. In my experience it requires some pains to keep the series of wheals in line. Along the lower line of the incision there is always more subcutaneous fat and the skin is thin and the proper introduction of the needle point and the production of wheals more difficult but it is important that this difficulty be overcome, however delicate and painstaking the necessary effort may be. Next inject into the subcutaneous tissues along the line of the wheals a small amount of one to one thousand solution and do this particularly well into the region about the external ring. I pass the needle here in several directions to control this exceedingly sensitive area, as the first incision of the skin and subcutaneous tissue is usually carried at least a little into this spot. Compress the skin a moment along the line of the wheals with a gauze pad and immediately by clean cutting make the skin incision, and as the vessels crossing the incision are exposed carefully isolate them and double clamp with fine hemostats. Do not catch masses of tissue up with the vessels or pain will be caused along the course of their accompanying nerves.

Cut quickly between the forceps. If any pain is elicited by attacking the external oblique sheath a little weak solution may be injected along the line to be split. Make the first incision in the sheath about three inches long over the internal ring or sufficiently long for the next step in the operation, which is to carefully pick up the edges of the cut external oblique and retract the same and look for the nerve trunks which have already been located in this relationship. Be careful not to miss a nerve by its being picked up with the sheath of the oblique, which sometimes happens. Having found the nerve or nerves, expose their trunks as high in their course as practical, proceed to inject into their sheaths with a fine needle, solution No. 1. When properly done this causes a blanching to a marked degree along the course of the nerve and sensation is immediately lost in lower points of the same and also the cremaster may be picked up with the forceps and found to be without sensation. If the trunks are small it may be concluded that there is an unusual division and other branches should be sought for. Needless to say it

will be found more difficult to inject the smaller branches. Here is where a very fine pointed needle is desirable. Deepening and extending the incision and exposing the sac are now painless. I find it sometimes necessary to inject a little more weak solution to make painless the lower part of the incision through the subcutaneous fascia. The sac is still sensitive but all the tissues over the same may be held up and separated by short cuts with a sharp knife or scissors. I mean sharp when I say this, and it may not be amiss to say right here that the short quick cuts with a sharp knife or scissors have much to do with the success of this operation.

As the neck of the sac is approached I inject close about it, even into that membrane, some of the weak solution. Any point of the sac can be deadened to pain by this same procedure. I continue to free the tissues of the cord from the sac in the manner mentioned until the sac is free at one point and then continue the separation toward the neck. As this point is reached where the vas is in close relationship I find need of cocaine and I at once inject some into the cleavage line close to the sac, in fact, I throw some cocaine solution clear around the neck of the sac prior to the last steps of freeing the same at its point of exit from the abdominal cavity. If there are omental adhesions in the sac or omentum to be resected, ligate and cut away. To make doubly sure of the sac being painless for ligation I now follow Bodine's method of twisting it into a cord and injecting into the same in multiple directions, after which it may be transfixed and tied. If I desire to free the cord from its bed I first test its sensibility and may inject a little weak solution along the lines to be separated by snipping. The closing needs no comment except remember to keep within the range of the wheal for final suturing.

It is outside of the scope of this paper, but permit me to say that after placing a small gauze pad wet with alcohol over the line of skin sutures and over this a larger but not too clumsy a one, I retain these in position and at the same time support the testicles and relieve all traction upon the cord by putting on a medium or large size suspensory. I have done this for years and find no form of dressing more efficient, none so easy of application or so constantly fulfilling the purpose.

The umbilical herniae which I have operated

under cocaine analgesia have been small ones. I found cocainizing the skin in the line of the incision and the muscular tissues, muscle sheath and sac as they were reached made the operation very satisfactory.

I have seen no bad effects from the cocaine used and do not fear using any part up to the whole of one grain during the course of the operation.

One husky brakeman began crying during the operation but on inquiring if he was being hurt replied in the negative and I believe he had a slight cocaine jag. About one-half of my patients made no complaint whatever and all the others were in accord in saying that the amount of suffering was not at all bad, not as bad as the filling of a tooth. Two patients insisted on raising themselves up and viewing some steps of the operation. There was no vomiting and food could soon be given. Primary union occurred in all my cases. Some patients needed one-sixth of a grain of morphine within a few hours after the operation for pain complained of in the wound. Three of my patients readily submitted to an operation upon the opposite side a few days after the first, accepting the cocaine method although offered the alternative of a general anesthetic. Summary:

It is practical to operate for inguinal hernia in a large per cent. of adult subjects who are not possessed of too much subcutaneous fat.

It is safer than general anesthesia and especially so in strangulated cases.

The technique is not too difficult for the average skill possessed by competent general surgeons.

The method necessitates clean cutting and gentler handling of tissues and more careful attention to hemostasis with a resulting lessening of the danger of infection.

It offers an extra argument for fewer trusses being worn.

Since reading the above paper I have operated upon a femoral hernia with adherent omentum in an adult female and an inguinal hernia in one of like sex. Although there were rather deep fatty layers in both cases, the analgesia was almost perfect and the operations were completed with very little complaint on the part of the patients. I might add that the young woman with the femoral hernia was supported in such a position that she might view the operative procedure, and did watch the making of the incision, exposing, freeing and opening the sac, and then was again raised to watch the closing.

THE CUTANEOUS REACTION OF SYPHILIS.

BY LOUIS M. WARFIELD, M. D.

MILWAUKEE.

A cutaneous reaction for syphilis has been looked forward to since v. Pirquet demonstrated the cutaneous tuberculin reaction in 1907. Several investigators experimented with extracts of syphilitic tissues but no one succeeded in obtaining a reaction which was in any sense reliable. All were agreed that the *sine qua non* of a successful reaction was a pure culture of the *Treponema pallidum*. Up to 1910 no one had cultivated the spirochete in pure culture. Schereschewsky in 1909 was the first to show that they might be cultivated, although he was unable to produce syphilis in animals with injections of his cultures. Others cultivated the spirochetes by Schereschewsky's method, purified the resulting mixed culture of bacteria and spirochetes but, although morphologically the spirochetes were like the *pallida*, they were not virulent for animals.

Still other investigators (Bruckner and Galasesco, and Sowade) reported that they had succeeded once in producing syphilitic lesions in rabbits by the injection of rather large quantities of young impure cultures which still contained the original syphilitic tissues.

In 1911 Noguchi published his successful attempts to obtain the spirochetes in pure culture. Of ten strains cultivated two produced typical lesions in the testicle of the rabbit. Incidentally this established beyond question the etiological relationship between the Schaudinn *Treponema pallidum* and syphilis.

Having obtained the organisms in pure culture, Noguchi used them in animals as a cutaneous test for syphilis. He then applied his technic to man.

He grew the spirochetes in ascitic fluid and ascitic fluid agar, each containing a piece of sterile placenta. The cultures were grown for 6, 12, 24, and 50 days at 37° C. under strictly anaerobic conditions. The cultures containing the organisms were ground in a sterile mortar, diluted with the fluid culture until the whole was liquid. The mixture was then heated to 60° C. for sixty minutes in a water bath and 0.5% carbolic acid was added as a preservative. This mixture was named Luetin. The control injection is one containing uninoculated media with 0.5% phenol.

To perform the test the luetin and control are

each mixed with equal parts of sterile normal saline solution. Each dilution is then taken up in a tuberculin syringe (used for no other purpose) graduated in 0.01 cc., and a fine hypodermic needle is attached. The skin over both upper arms is washed off with alcohol. From 0.05 to 0.07cc. of luetin is injected intradermally not subcutaneously, the bevel edge of the needle being toward the skin surface, into the left arm, the control in the same amount and in the same manner into the right arm. Too much importance can not be laid upon the careful technic of administration.

Noguchi recognizes three distinct types of positive reactions. "(A) Papular Form.—A large, raised, reddish, indurated papule, usually 5-10mm in diameter, makes its appearance in 24 to 48 hours. The papule may be surrounded by a diffuse zone of redness and show marked telangiectases. The size and degree of induration slowly increase during the following three or four days after which the inflammatory processes begin to recede. The color of the papule gradually becomes dark bluish-red. The induration usually disappears within one week. Cases of congenital syphilis and of secondary syphilis under mercurial treatment show this reaction.

(B) Pustular Form.—This resembles the papular form until about the fourth or fifth day, when the inflammatory processes commence to progress. Slight edema of the papule occurs and the center begins to soften. Within 24 hours the papule changes into a vesicle which quickly contains a grumous, reddish-brown material. Rupture takes place, a crust forms but the margin of the papule still remains indurated. Within a few days only a brownish stain is left at the site. There is a wide variation in the size of the pustular form.

(C) Torpid Form.—In rare instances, the injection sites fade away to almost invisible points within three or four days, so that they may be passed as negative reactions. After ten days or two weeks they suddenly light up and progress to the pustular form. The course of this is similar to the preceding form."

The negative reaction consists of a small papule the size of the original welt raised by the injection, slightly pinkish with no areola or induration, which is seen in 24 hours, reaches its maximum in 48 hours, then recedes. Very occasionally a very faint, pinkish, slight areola surrounds the papule.

My own observations have taught me that when there is a distinctly visible areola around the papule after 24 hours, the reaction is positive. The faint areola reactions have been the ones which later flared up to produce the torpid reactions.

Now and then the control site on the right arm evolves with an intensity almost equal to that of the luetin arm. This is seen chiefly in latent and tertiary syphilis and seems to be due to a condition of the skin in syphilitics to which Neisser has given the term "Umstimmung." He and Bruck found that the skin of syphilitics late in the disease was in a state of hypersusceptibility to trauma. This state of the skin has been proposed as an explanation of the reactions at the control site. At times it is difficult to tell upon which arm the luetin was injected, as the control appears so similar. Some, on this account, have questioned the specificity and value of the reaction. It must be admitted that the critics, in such cases, have good grounds for adverse comment as it does seem to call the specificity in question. It is a difficult matter to clear up, and to call it hypersusceptibility of the skin hardly explains it. Yet it seems to occur only in these syphilitic cases and, as will be seen later, it may not occur at one time but occur at another, in the same person.

Through the kindness of Dr. Noguehi, I obtained some luetin from the Rockefeller Institute. I have given 136 injections to 131 patients. Of these 55 were normal, that is there was no history and no sign of syphilis. The cases included such diseases as acute articular rheumatism, gonorrhoeal rheumatism, cancer of the stomach, pulmonary tuberculosis, cirrhosis of the liver, amebic abscess of the liver, influenza, fracture of the leg, etc., etc., etc. In 45 the W. R. was also negative, in 10 it was not done. There were six cases with a previous history of syphilis. The infection had occurred 10 years previously in one, 15 years in one, 30 years in two, and 33 years in two. In every one of these six cases both the W. R. and luetin test were negative. The diagnoses were pulmonary tuberculosis, aortic insufficiency, cerebral hemorrhage, influenza, myoeardial insufficiency, cirrhosis of the liver. These are not included in the tables.

There were 70 cases of syphilis. These were divided as follows:

Secondary syphilis13 cases
Tertiary syphilis16 cases

Latent syphilis29 cases
Parasyphilis12 cases

Secondary syphilis.—In all the W. R. was positive, in 10 the luetin was negative, in 3 positive. One case was of rather virulent type. Four months before tested with luetin he had had neosalvarsan and had also been treated with mercury. There was also "Umstimmung" in this case. Possibly this case might be placed in the tertiary group with some reason. It was at any rate a late secondary case. Two cases gave positive luetin after active treatment. One case (11816) gave on entrance a negative luetin. Following active mercurial treatment and later 0.6gm. salvarsan intravenously, there was a positive torpid reaction.

Tertiary syphilis.—Thirteen showed positive luetin, 3 negative. The W. R. was positive in 8, negative in 5, not done in 3. Further tests on some of these cases were made after treatment in the hospital. One case (11555) had a positive luetin which several months later following treatment became negative. Two cases (11984 and 11321) had on first trial a negative luetin which later was positive.

Latent syphilis.—Among the diagnoses in hospital were arteriosclerosis, myoeardial insufficiency, cirrhosis of the liver, ulcer of the leg, paranoia, multiple sclerosis, etc. In none of the cases could a history of syphilis be elicited. Twenty five cases gave a positive luetin, 4 a negative. In 7 the W. R. was positive, in 20 it was negative. In two it was not made.

Parasyphilis.—There were twelve cases of parasyphilis. These included tabes dorsalis and paraplegia. In 9 there was a positive luetin, in 3 a negative. Five gave a positive W. R., and seven a negative.

There was one case of tabes in a man aged 35 years, who had violent gastric crises. This patient admitted syphilis when 20 years old and he had been treated with mercurial injections. Both tests were negative. This is the only case reacting in this way. Whether we should class him under the cured cases, or under the parasyphilitic cases, is a difficult matter. He is classed in these series under the latter. If we believe that the negative reactions to both luetin and Wassermann in treated syphilis indicate a cure, then such cases as this one of tabes may not be due to syphilis at all. It is held by some that in all cases of tabes there was previous syphilis, whether the history of syphilis

were present or not. It is held by others that not more than 70-80 per cent. of tabetics can be shown to be dependent upon previous syphilis. It would seem that we have now in the W. R. and luetin reaction means of collecting data which may throw light on this subject.

Among the series were 13 ulcers of the leg. In seven ulcers diagnosed clinically varicose ulcers the luetin was negative in all, the W. R. was negative in six, one not taken. In two cases there were large varicose veins with ulcer, but in both the luetin was positive, the W. R. was negative. In four ulcers diagnosed clinically syphilitic, all gave positive luetin, one a positive W. R. These are too few cases from which to draw conclusions, but they are suggestive for luetin diagnosis.

The part played by the luetin reaction may be illustrated by a brief resume of a few cases.

Case I. A woman aged 30 years (Hosp. No. 11660) with no history of syphilis except the suggestive feature of several abortions, gave a marked positive luetin with "Umstimmung."

Case II. A man aged 26 years (Hosp. No. 11658) was brought to the hospital with a history of sudden loss of power in the right leg which within a day involved the right arm and he became speechless. There was no history of syphilis obtained after he became well enough to answer questions. There was retraction of the neck, choked discs, bloody spinal fluid, fever, slow pulse, normal blood pressure and exaggerated reflexes. There was no mark of injury. W. R. negative, luetin strongly positive with "Umstimmung." Treatment with intramuscular injections of salicylate of mercury and internal administration of KI produced gradual recovery after several weeks.

Case III. A man aged 32 years (Consultation) with no history of syphilis. About two months before he was seen there was twitching of the left arm and headache. There followed gradual loss of power of the leg and sudden convulsions with stupor and incontinence of urine and feces. When seen the patient would answer questions, but seemed dazed and the answers were not always intelligible. There were paralysis and rigidity of the left arm, exaggerated reflexes, normal pupils, no choking of the discs. Physical examination of viscera was negative. Blood pressure was normal, spinal fluid clear, negative globulin reaction, negative W. R. with fluid and blood serum, no cells in the spinal fluid. The luetin was strongly positive

and showed "Umstimmung." Under active treatment with mercury injections, "606" intravenously and KI internally, he has markedly improved.

Case IV. A man 32 years old (Hosp. No. 11287) came to hospital with syphilis of two months standing. Spirochetes were found in the ulcer on penis. The W. R. was positive on two occasions. Under treatment the W. R. became negative and two months later the luetin was positive.

Case V. A man aged 39 years (Hosp. No. 11984) came in with both ankle joints swollen, and discharging from sinuses a large amount of bloody, grumous material. There was no pain in the joints. The bones were thickened toward the articular surfaces, and at the same time partially destroyed. The diagnosis leaned toward syphilitic disease of the joints. There was a history of chancre 20 years previously. On Dec. 18, the W. R. was positive, the luetin was negative. Under administration of KI the sinuses closed, the bones showed permanent thickenings, both joints, particularly the left, being deformed. On Feb. 27, 1913, the W. R. was negative, on Mar. 5, the luetin was positive.

Case VI. A man aged 21 (Hosp. No. 11321) had his initial lesion 4 weeks previous to his first admission to hospital. The W. R. was strongly positive. He was given active treatment for a while, then left the hospital and continued inunctions of mercury. Two months later, June 19, 1912, he was readmitted with sore throat and maculo-papular eruption over the body. The W. R. was negative on June 20, the luetin negative on July 16. Under vigorous mercurial treatment the syphilide cleared. He developed an acute tuberculous arthritis of the knee joint. Antisyphilitic treatment was interrupted for a time. In Dec. 1912 ulcerations appeared on the scalp which in spite of mercurial and iodide treatment did not heal. He was given 0.6gm salvarsan intravenously following which the lesions healed rapidly and on Feb. 3, 1913 the luetin was positive. We presume that this means that he is not yet cured and we have advised another salvarsan intravenous injection in a few weeks.

In the light of personal observations I can not absolutely agree with Ziegel, who maintains that the test can be accepted as of considerable negative value. There are cases in my series in which a negative luetin was changed to positive while the patient was under treatment. The case cited

(Case VI) showed negative reactions at the time of the appearance of active lesions. However, it would seem that on the whole a denial of syphilis and a negative luetin reaction would be evidence to acquit a person of suspicious syphilis.

A pertinent question which has a practical side is this: Is a patient who has been treated for syphilis cured if his W. R. remains negative and the luetin is positive, or is the cure only complete when both are negative? It will be noted that in some of my cases a previous positive W. R. and negative luetin under treatment became reversed. In at least one case the W. R. was positive, then negative. Then positive and the luetin was strongly positive. It would seem that treatment in the secondary stages converts a negative luetin into a positive luetin. Furthermore the latent and parasyphilitic cases were largely diagnosed by means of the luetin reaction. Is that indication for active treatment and if so should it be mercury, KI, salvarsan, one, all, or combinations of any two? Thus far I have not observed cases long enough to settle the point in question, but it seems to me to be both an interesting and important matter.

SUMMARY.—A review of the work done by Noguchi and others shows a striking unanimity of opinion concerning the luetin reaction. It is not positive in primary and untreated secondary cases, but is positive in the majority of cases of latent, tertiary, and hereditary syphilis, and in parasyphilis. The diagnosis of syphilis thus has been furthered in just the class of cases in which the W. R. is not often of assistance. For the primary lesion there is the demonstration of the actual infecting organism. For the secondary stage there is the complement fixation test, the Wassermann reaction. For the late stages there is the luetin reaction. It would seem that the field is now covered and sufficient evidence has accumulated to enable us to place considerable reliance upon the luetin test when properly performed. Several interesting features have come to notice in the above series of observations. It has been found that there is a reversal of reactions under treatment with KI, mercury, or salvarsan. That is to say a positive W. R. and negative luetin became negative W. R. and positive luetin, the luetin showing marked "Umstimmung." Just why the skin should show absolutely no reaction at one time and three months later react violently to

both luetin and control suggests a changed condition due possibly to the same factors which cause the luetin reaction. We are ignorant of the exact nature of this skin change. If the W. R. be due to antibody content of the blood serum then the luetin reaction must be due to other immune substances.

Conclusions.—It seems justifiable to draw the following conclusions from the work thus far performed:

1. The luetin reaction is specific for syphilis.
2. It is positive in only a small percentage of untreated secondary cases. In treated secondary cases it may become positive together with a positive W. R., or the W. R. may become negative.
3. In tertiary, latent syphilis and in the so-called parasyphilitic diseases, the luetin reaction is present in the majority of cases (80.6%).
4. In certain cases of tertiary, latent syphilis and parasyphilis the site of the control injection evolves with an intensity almost equal to the luetin site. This has occurred when a previous test was absolutely negative.
5. It seems possible to differentiate ulcers of the leg whether due to syphilis or to varicose veins.
6. It would seem possible to determine more definitely the etiological relationship of syphilis to myocardial disease.
7. Torpid reactions have been more frequent in the latent syphilitic group.

Stages of Disease	No. Cases	W. R.		Luetin	
		+	—	+	—
Secondary Syphilis	13	15 ¹	2	4 ³	10
Tertiary Syphilis	16	11 ¹	10	15 ⁴	4
Latent Syphilis	29	7 ²	21	26 ⁵	4
Parasyphilis	12	5	8 ¹	9	4 ³

1. W. R. done several times on more than one case. Negative reactions following treatment.
2. W. R. not made in two cases; twice in one case.
3. Luetin positive after 0.6 gm. salvarsan previously negative.
4. Luetin twice on three patients, two negative to positive, one positive to negative.
5. Luetin twice on one patient.

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THE DOCTOR: WHAT ARE THE REQUIREMENTS?*

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First, education. Our best medical colleges today require from nine to twelve years of study after one has completed the grades. This has its advantages, for it lays a strong foundation, a knowledge of the human body and the functions of all its different organs, which is absolutely essential before one can know the cause and effects of disease; also a thorough knowledge of *materia medica* and the action of medicine, before we can apply it for the alleviation and cure of disease.

But the very long course of study has its disadvantages for it debars many a poor man, for unless he is a physical cyclone, capable of going two ways at the same time, he cannot meet both the financial and intellectual demands, he cannot keep in the whirl. If we try to defeat nature, we are often defeated ourselves.

The foundation is not the superstructure; a vital part but not the whole thing. A house whose foundation is carried to the second story is not a symmetrical building, and a perfect foundation that is not built upon is worthless.

Ability, energy, perseverance, adaptability, natural or acquired mixability, consecration to our profession, love for our art, regard for our neighbor, sympathy for our patient, post graduate courses, and poring over medical lore, will make a superstructure, which will be more vital to our success than a knowledge of foreign languages or overmuch theory as a student.

What we knew when we left school was but a fraction of what we have learned since at the bedside, when we and not the professor are responsible for a life, a vital issue which leads us to our library where we search for the knowledge that the giants in our art have recorded for their successors.

Consecration for our work, I might almost say overwork, so that we will never stop to distinguish sunlight from storm, daylight from intense dark-

ness, cool breezes during the day from the cutting wind that extinguishes our light at night and numbs our fingers while we attempt to repair a broken harness. Good roads please us, but mud, ruts or washouts in summer or impossible drifts in winter do not debar us, and somehow we reach the dwelling place of our patient after a drive of ten, possibly twenty miles, and our driver, if perchance we are fortunate enough to have one, remarks with great satisfaction, "Here at last," for his work is over for the present and he can toast his feet before the oven door of the kitchen stove and chat with the maid. But we realize full well as we are ushered into the sick room that we have just reached our field of work and taking up the burden of responsibility we search for cause and effect. What will relieve? What will cure? What will eradicate, and what prevent a return?

Then we too can relax if time and conditions permit, and chat upon less weighty subjects as we sip our coffee with relish and appreciation, but these respites glide by so quickly and we are soon following the long way home, and the longer we have been absent, the more apprehensive we become as to whether home means rest or whether we will have to arouse our latent energies and repeat the trip.

If we can unite sympathy with our ability and application, it will strengthen the sufferer's faith in us, and without faith it is impossible to cure, for faith is the foundation of works, obedience, assistance, accord, hope. Sympathy is a coin that will purchase much in the marts of the world and honesty begets confidence and honesty is what the world needs today; but it is a very different thing for a physician to be strictly honest for we have every opportunity to deceive. Only those in our profession know what we are doing, we have no monitor excepting our own honor; therefore we should not betray the confidence of those who trust us.

Those in our profession who will run a bill for the sake of a bill are few. I speak of honesty in the sense of honor, integrity, a square deal, a thoughtfulness of the patient's true interests.

Are not five, possibly ten per cent. of our patients today taking medicine by the mouth, when we know full well that it is not medicine but hygiene that they need? I say it is difficult to be strictly honest. Why? Because these patients insist upon having medicine; they want to be passive and not active agents in regaining health.

* Read before the Barron-Polk-Washburn-Sawyer-Burnett County Medical Society.

We have all lost some of this class of patients when we have told them to quit doping, and they have gone after quacks or patent medicine, always taking something, always getting better, but never well. We shall perfect our art when we can teach this class of patients the art of living. For example, a mother comes to us, weak, sick, discouraged. Her first baby is five weeks old; grandmother went home two weeks ago; she knows nothing of motherhood and less of babyhood, for she never has been taught. She nurses the baby when he cries and her breasts are fearfully sore, so she gives him sugar done up in a rag and his stomach rebels and goes on a prolonged strike; then she gives him many things which the neighbor women say will fix the little dear all right. But they fixed him all wrong; he cries and cries, no one sleeps and everybody is cross from the baby up. Next the mother's milk fails because she is worried, nervous and sleepless. How can you be honest? You can't teach this mother volumes on hygiene in half an hour, besides she is too sick and worn to heed if you could, so we will give the mother a tonic, the baby paregoric and give directions she will not follow and say we will return tomorrow and continue to give prescriptions indefinitely. This is all right for the doctor and the druggist and the mother is pleased because she has received a temporary relief, but this is repeated and what are the results?

About one-fifth of all the children born in this country die before they reach one year of age, and thirty-six per cent. of these infants and young children die of diseases of the digestive system, eighteen per cent. of diseases of the respiratory system, twenty per cent. of congenital debility, while only ten per cent. die of all contagious diseases combined. Thus seventy-four per cent. die of diseases that are, in some good measure at least, preventable.

Prevention is better than cure. Our State Board of Health states in one of their recent pamphlets that two per cent. of breast fed infants die of diarrheal diseases in the first three months of life, while thirty per cent. of those artificially fed die from the same cause during this time.

We need trained nurses; they are a necessity in accidents and serious sickness, but they are financially out of the reach of the masses. We need home nurses, women who need know nothing of the operating room, but are skilled in preparing food for the sick, who understand asepsis thoroughly,

which is only another name for absolute cleanliness, who can give hypodermic medication, who can be relied upon, who will follow the physician's directions and not the neighbors', and whose wage is within reach of the masses. If they receive ten dollars a week and expenses, they will be better paid than the average teacher in the grades. But of greater necessity than either of these is that young women be taught the art of home-making, for many have not even ten dollars a week for a nurse for any length of time. The great majority of wives and mothers are devoted to their homes but many of them do not reign there. They have not been taught the necessary qualifications. A slave to the church, to society, to the house that is larger than their income; sometimes to her husband and oftentimes to her children, the woman that can so divide her time that she neglects none of these interests, either physically, mentally or spiritually is the greatest of earth's great ones, and if her husband is her equal, he will remove his hat when within her realm.

But what has this to do with sickness? It has much to do with sickness, more with prevention, for the pampered child, the one that eats all things in all quantities at all times, is the sick one, and the one that has never been taught to mind is the sickish one.

The reduction of this fearful mortality among infants and young children depends more upon the consecration, ability and firmness of the mother and father than upon the consecration, ability and skill of the physician. The consecrated mother will nurse her offspring; the able mother will feed and clothe them properly and the firm one will use her judgment and not the child's, even though he cries, whimpers, pouts and kicks.

But let us return to the doctor. Many will say it is being too honest, if when a patient comes from a distance with an ailment which is as much in her home physician's line as in ours, we advise her to return to her family attendant and thus save her time and money, and do our brother in the profession an honor and not look wise and say, "You came just in time, return in a week," and charge her according to the distance she came.

Again, if we receive a check from some surgeon or physician to whom we have referred a patient, shall we return it or place it in our pocket? They seem to come when we need the money. Usually return it, but under certain conditions retain it. When a part of the fee is given the local physi-

cian, it is usually an extra charge and a bid for practice, a graft that dispels confidence. But let me give a common circumstance. The patient is poor, the home physician has tended him for a long time without pay, and it becomes necessary for the patient to go to a hospital where he can be under the care of a specialist, and the patient is told it will be necessary to raise a certain amount, which by the aid of friends, or by a special effort he succeeds in doing. But the family attendant is left out, and this is as unfair for him as the graft was for the patient. Now if the patient is unable to raise sufficient for both and the specialist gives the local doctor a percentage of his bill which is not an addition to either bill, and applies on both, I would consider it honest if it is all done above board, and not concealed from anyone; and on the other hand it would be equally unfair for the local physician to receive his pay and "work" the specialist for a charity patient.

If we were more honest in our diagnosis and did not give a positive assertion when we are in doubt, would not the intelligent public have more confidence in our art, though the superstitious and ignorant would denounce us as not having the mystic sight?

Is the Homeopath honest when he uses the one ten-thousandth dilution? The Eclectic, Osteopath, Chiropractic, Christian Science and Mental Healer when they assert so positively that their one thing is "it"? These all live because of the good that is within them, because of their real and seeming cures, yet they all seem to me to ride a hobby and a hobby-horse is so different from a real one for the faster it runs, the better its wind, the hobby never tires and it is so much better groomed.

I have said that the hobbies live because of the real good that there is within them, but their greatest hold on life is that nature spurns them as she does the regular physician, unless we work in harmony with all of nature's laws. Nature cures and they get the credit. There is an axiom among physicians that "The tendency of all disease is toward cure," and I think I can say conservatively after many years of practice that I firmly believe that if one-fourth of our surgical cases was treated medicinally and one-half of our medical cases were treated hygienically, the world would be more healthy, wealthy and wise but until the masses know more of hygiene and are willing to deny themselves that they may practice it, they

will be unable to save one-half of the physician's fee.

The greatness of our art consists in knowing nature's laws and working in harmony with them. The successful life is the one that is in harmony with its Creator, the successful physician is the one that works in harmony with the Creator's laws and has the ability to teach prevention as well as to perform cures.

These laws change not, neither for regulars nor pathies, any more than they change the course of ice-bergs because of the greatest boat on earth. Let us drop our hobbies, whether they be castor oil, electricity, solutions, bones, massage, pathies, sciences, laboratory, germs or suggestion, all good, some of them very good in their place, but a unit is not a complete whole.

Let us get back to nature's laws, the study of health and its maintenance, then the study of diseases, the inroads against nature, the enemies of the natural, and lastly the application and action of medicines, which nature and science have given us for "the healing of the nations."

One hesitates to speak of Christian Science as a hobby as regards cure for we naturally have a reverence for that which refers to the Deity, yet I have sought carefully for an authentic case, where a malignant, an organic, a naturally incurable disease has been cured by either religion or science, and have been disappointed. I have ceased to ask for miracles, but many a physician asks when he feels the weight of responsibility, that he may have wisdom to assist nature in the art of healing. I believe that the extract of the poppy is given us to allay physical pain, the same as the promises of the "Word" act as a healing balm for a wounded conscience.

Patent medicines, like the pathies, exist because of the good that is within them. They are mostly physician's prescriptions but in most instances given blindly by persons who neither know what they are shooting, or what they are aiming at, or whether they are hitting the disease or the patient. I have known a number of instances where they aimed at the former and killed the latter. They are a two-edged sword and in unskilled hands resemble the knife in the hands of an unskilled surgeon. The seventy-five million dollars expended for patent nostrums in the United States result in the cure of many, the injury of more, and in deaths not a few. External applications are safer than internal, yet a patent medicine is lauded as

a cure for eczema, when in fact there are at least twenty distinct forms of this disease and that application which will cure one form will act as poison on another and what is required in the chronic stage will only add fire in the acute stage. Fox-glove is the most potent of heart stimulants, and has prolonged many a life when the heart was dilated and shortened many when it was hypertrophied. If one does not know the exact conditions in the particular disease and the exact action of the particular drug, and is not present sufficiently often to see how it acts on this particular individual, one is groping in the dark when a human life trembles in the balance.

There is no greater science, no higher art than that of the regular physician free from pathies and with judgment unbiased by hobbies, with his finger on the pulse, his ear over the chest, who when he percusses the thorax and palpates the abdomen, keeps his eyes on the patient as well as on the disease, as he considers every organ, draws deductions and meets the indications with the precision born of knowledge. Medicine is not a haphazard mysticism, but it is a science that uses means to obtain definite ends. And we obtain results when we have the co-operation of the patient and family, when for instance a young father and mother say in words, or more often in action, "Here is our child, we know he is very sick and we are very anxious, but we place our treasure in your hands and will carry out your directions faithfully. Come as often as you think it necessary." Then you will feel the full weight of your responsibility; then you can work effectually, you can be frank and say this case is clear and everything is working well, or this case is obscure and I would like council; in short you do not have to be on the defensive, you can forget self and work wholly in the interest of the patient.

Let me draw another picture, far less common, thank Heaven than this one: Called late, patient has been taking some patent medicine or other dope prescribed by some friend who affirms positively that he had the same trouble and it cured him. Positive diagnosis and positive assertion that you can cure demanded before you have had time to make a thorough examination. Dr. A. is very successful with children and Dr. B. uses antiphlogistine. Thinks your restriction in diet too rigid and gives patient little food that he can relish. A trained nurse is entirely unnecessary, as they have had a great deal of experience with the

sick. They look for the mystic touch and mistake hot air for steam. They are constantly on the defensive for fear you will work a bill on them, and will "let you know" when you need to call again. If the patient dies, you are not any good, or if you take off your coat and in spite of obstacles and environment, carry out your own directions, doing the work of both doctor and nurse and the patient recovers, then you have made a great fuss over a light sickness; it was not diphtheria at all, only tonsillitis. There is only one good thing about this class of patients and that is that the next time one of them is sick they will employ another physician for they are "rounders" and never satisfied unless they have some vociferous quack.

The patient should trust the family physician to select the council and the specialist, for they can read those of their own kind. Let your good pastor instruct you in things spiritual, but your good doctor in things physical.

Our profession is composed largely of noble men; a few are ignoble and these talk the loudest; promise the most and are continuously advertising themselves, and there are many ways of attracting the public besides the use of printer's ink.

What will be the physician's reward? Affluence and ease? These come not by being a servant of the public. You may plan, but others dictate; at home now, but only a prophet can tell where you will be an hour from now. None more devoted to their work, none from whom more is expected. You call on any other person for night service, and if they can say "I worked last night and slept not today," their excuse is accepted without question; but several nights in succession are not sufficient excuse for one in our profession.

Few of us acquire wealth; many acquire a competency, more come down to old age destitute and there is not any pension in waiting. The book account may be large, but when you deduct the accounts of the worthy poor, the indolent and shiftless poor who cannot pay, and the professional dead beat who will not pay, it becomes less, and then when you deduct your business expenses, your net profit is but little more than one-half of what you earned.

Don't select this strenuous profession from the hope of wealth; your reward must be the satisfaction that comes from work well done and from the gratitude expressed, perhaps more often unexpressed, by persons that you have cured or more correctly from the appreciation of honest effort.

not only at the bedside but in the library, that we may acquire so as to be able to impart, rationally, both medicine, hygiene and good cheer. Your patients' rights must be respected, they have a right to your best efforts; your profession must be first and not an annex, and you have no right to accept more business than you can do well, excepting in times of emergency as in epidemics when every physician is overworked.

It is natural for patients to want the physician who is in great demand, going all the time, hardly stops to eat or sleep, but how many times have I seen the overworked man prescribe without due care, when some less noted man would have given the necessary time and attention and done proportionately better work.

As I look back over my professional life, I see that my mistakes have been made when I was so utterly worn that my judgment was at fault. The body cannot work without food, neither can the brain work without sleep.

When your family physician is not available in an emergency, you have a perfect right to call another physician, in fact you have no other alternative, but always inform him that he is called because of the emergency, and he will expect to give up the case upon the return of the regular attendant, except in cases of obstetrics when it is usually customary for the emergency physician, with the consent of the patient, to remain until after the birth of the child, but in no wise to endeavor to obtain the family practice.

The patient has a legal right to discharge the physician at any time and a moral right to do so in case of incompetency or neglect, but there is danger in discharging the one who has attended the case from the beginning, and more especially if he has known the patient beforehand and known his individuality, for the new man must of necessity work at a disadvantage. The patient should select from the first the surgeon whom they regard as the most skillful, the physician in whose ability to cope with disease they have the most confidence, regardless of relation, friendship, or I almost said enmity, social position, party, club or church, for if you favor your friend and you or the wife or child does well, all is well, but if despair overtakes you, you flee to the one in whom you have the most

confidence and do your friend a far greater injury than if you had not employed him at first.

The patient has a right to ask for council at any time, though the honest family physician is the one who knows best when it is needed and he has no moral right not to ask for assistance in serious cases or when in doubt in regard to diagnosis. In fact the public has reason to be suspicious of the man who is so egotistical or selfish as not to ask for help when a life is at stake, a life as important to the patient as ours are to us. The giants in our profession council together by twos and threes, for there is humility in greatness, pride in littleness.

Lastly, what is due the physician? The upright, capable man has a right to the confidence and trust of his patients. In a physical sense, the patient belongs to his medical attendant and he has no right to follow the advice of any other person or accept any other medicine or dope or indulge in any prescribed diet or to dissipate in any way without his medical adviser's consent. If two persons each have a strength equal to one hundred pounds, their combined strength equals two hundred, and their opposed efforts equal naught. The great majority of patients realize this; a few are always pulling off and a still less number are so ignorant as to be superstitious and believe in the mystic touch.

Everyone in our profession is entitled to sufficient time to eat his meals, to relax, for a care-free mind is an excellent pepsin; he is also entitled, more, in duty bound, to take sufficient time for sleep so that he may be in the best physical and mental condition to meet great responsibility, quick to discern, alert, active, interested, in short in a condition in which he can do both himself and his patient justice.

The doctor is entitled to remuneration for his physical labor, more for his mental work, whether at the bedside or poring over medical lore, most for the weight of responsibility, for the fulfillment of great trusts.

If the doctor ever becomes discouraged because of his strenuous life, let him remember that there is but one thing greater than the curing of human ills, whether physical, mental or spiritual, and that is their prevention.

THE WISCONSIN MEDICAL JOURNAL

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Vol. XII.

JUNE, 1913.

No. 1

EDITORIALS

FOURTH OF JULY TETANUS.

In the tenth annual summary of Fourth of July injuries published by the American Medical Association, the diminution in tetanus in 1912 was shown to be quite remarkable, only seven cases being reported, as compared with 18 in the preceding year, 72 in 1910, 150 in 1909, and 392 cases in 1903. The patients ranged from eight to fifteen years of age. In five cases the injury was on the hand and on the other two it was on the leg. All seven cases were caused by injuries due to blank cartridges, and six of the seven cases were fatal. It has been determined that this diminution is not due to any reduction in virulence or occurrence of the tetanus bacillus, as the cases of tetanus due to other causes were not reduced during the Fourth of July season. In addition to the deaths due to tetanus, thirty-five persons were killed by various forms of fireworks, making a total of forty-one deaths due to Fourth of July celebrations. This is sixteen less than in 1911, and the lowest number during the ten years covered by the Journal statistics.

A considerable proportion of this satisfactory reduction in tetanus is undoubtedly due to the more general and energetic use of preventive measures. We quote again in order to continue the emphasis, the direct and simple directions given in the Journal of the American Medical Association for June 25, 1910:

TO PREVENT LOCKJAW.

1. Inject subcutaneously 1,500 units of antitetanic serum and continue the injections if indications of possible tetanus arise.
2. Freely incise every wound.
3. Carefully and thoroughly remove from the wound every particle of foreign matter.
4. Cauterize the wound thoroughly with a 25 per cent. solution of phenol (carbolic acid) in glycerine or alcohol.
5. Apply a loose, wet boracic acid pack.
6. In no case should the wound be closed. It should be allowed to heal by granulation. The dressing and packing should be removed every day, and fresh dressing applied.

THE A. M. A. MEETING.

The Minneapolis meeting of the American Medical Association will be long remembered as one of the best arranged meetings that have ever been held. The buildings of the University of Minnesota on both the old and new campus were splendidly adapted to the needs of the various sections which were housed in them, and the freedom from noise and dust made possible a sustained interest in the scientific program which was most unusual.

It was an ideal arrangement for the meetings and the hospitality of the University authorities in placing their buildings at the disposal of the Association was highly appreciated.

In addition the thoughtfulness and generosity of the people of Minneapolis in providing mid-day lunches for all in conveniently situated buildings on the campus kept the members of the Association together to an unusual extent.

The scientific exhibit was of a remarkably interesting character and was so well arranged that all of the throngs who filled the rooms were able to see or to hear without discomfort whatever was of interest to them.

The entertainments provided for the visitors by the physicians of both Minneapolis and St. Paul showed a spirit of cordial hospitality which will never be forgotten.

The election of Dr. Victor C. Vaughan of Ann Arbor, Mich., to the presidency of the Association was a tribute to the excellent work of this able man in the varied fields of his activities.

There is one thing about the meetings of the House of Delegates which should be taken under serious consideration by the various state Societies which this House of Delegates represents. That is the introduction of "ward politics" into its affairs. Of course there have always been medical politics of a kind in the House of Delegates, just as there will be "politics" in any organization. But a certain group of medical politicians, chiefly from Chicago, have introduced the methods of regular "ward politics" and they are now openly boasting that they are going to capture the American Medical Association. They boast that they have control of the Chicago Medical Society, that they captured the Illinois Medical Society this year, and that they are going to "get" the American Medical Association next year.

Now the American Medical Association is too big and too important to be "got" by any group of men, however pure they may claim their motives to be. And when the apparent motives are anything but pure the situation is not to be regarded with complacent indifference.

The choice of delegates by the State Medical Societies will be one of their most important functions during the next few years, and men of character, shrewdness, and absolute honesty, as well as high professional ideals, should be chosen for these offices.

THE FEE-SPLITTING BILL.

Before this number of the Wisconsin Medical Journal reaches its readers it is believed that an anti-fee-splitting bill will be upon the statutes of Wisconsin. In our February issue we presented the two bills, 227A and 300A, which had been introduced with the intention of stamping-out

this reprehensible practice. Bill No. 300A was side-tracked by the Assembly as No. 227A was considered to cover the same ground and to be a little better. No. 227A was passed by the Assembly and was then referred to the Senate Judiciary Committee, as all bills are prior to their introduction in the senate.

At a hearing on this bill, Senator Edward F. Kileen of Wautoma, chairman of the Senate Judiciary Committee, pointed out that even though the bill No. 227A, which was under consideration, were passed, few convictions would result because both the rebate giver and the recipient being punishable, it would be difficult to secure evidence as it was obvious that they would both be bound to conceal their acts. There were other objections to this bill, and consequently, Senator Kileen took it upon himself to draw a substitute bill which would be more efficient.

It was Senator Kileen's idea to devise a bill which would prevent the division of fees, either voluntary or involuntary, with or without the consent of the patient. This latter provision was to prevent the surgeon surreptitiously collecting sufficient money to cover his services, and enough extra to fee the physician through whom the case was referred, ostensibly for his services either as escort, anesthetist, or consultant. This is one of the methods employed in this State by those who are breaking away from the division of fee practice, and they dignify this practice by either telling the patient after the collection is made, or by giving him a receipt showing how the money the surgeon collected was distributed.

The bill prepared by Senator Kileen is as follows:

SUBSTITUTE AMENDMENT NO. 18 TO BILL NO. 227A.

A BILL

To create section 4431b of the statutes and to define and punish fee-splitting by physicians and surgeons.

The people of the State of Wisconsin, represented in senate and assembly, do enact as follows:

Section 1. There is added to the statutes a new section to read: Section 4431b. 1. Any physician or surgeon who shall claim or demand and collect and receive any money or other thing of value as compensation for his professional services in treating or operating upon a patient who was induced or advised by another physician or surgeon to submit to such treatment or operation, and who shall have previously paid or delivered, or shall thereafter pay or deliver, any money or other consider-

ation to such other physician or surgeon or his agent, as compensation for such inducement or advice, or as compensation for assistance in the case, shall be guilty of a criminal fraud and upon a conviction thereof shall be punished by a fine of not more than one hundred dollars or by imprisonment in the county jail not exceeding six months. Such conviction shall operate also as an annulment of the license held by the convicted person to practice as such physician or surgeon.

2. Any physician or surgeon, not a citizen of Wisconsin, who shall in any adjoining state treat or operate upon a citizen of Wisconsin, and who shall have previously paid or delivered, or shall thereafter pay or deliver, any money or other thing of value to another physician or surgeon as compensation for inducing or advising such patient to submit to such treatment or operation, or as compensation for assistance in the case, is forbidden to practice medicine or surgery within this state or to participate in this state with other physicians and surgeons in consultations. Every violation of this subsection shall be a misdemeanor punishable by a fine or by imprisonment as prescribed in subsection one.

3. All prosecutions under this section shall be in the circuit court.

Section 2. This act takes effect when published.

In considering this bill the following points should be particularly noticed:

1. The word "Fee-Splitting" is avoided because it is an indefinite term and there might be a possibility of a quibble in regard to its definition.

2. It punishes the giver of commissions and not the recipient.

3. It prevents the giving of commissions before the case in question has been treated or operated upon, as well as after those services have been rendered.

4. Each man collects his own fee, for the bill provides, as you will note, that no surgeon can collect or receive any money for professional services as compensation for the assistance of the man referring the case.

5. Conviction annuls the offender's license and reduces the fine and imprisonment clause as given in bill No. 227A.

6. It will prevent any physician, not a resident of Wisconsin from entering this State as a practitioner at any future time, provided he has given a rebate to any physician for the reference of a case. Nor can the out-of-state physician or surgeon enter the State in consultation.

7. The act takes effect when published.

Senator Kileen's bill has been passed by the Assembly following its passage by the Senate, and, at the date of writing, is now in the enrolling

room. Within a few days it will go to Governor McGovern for his signature and it is believed that it will receive favorable consideration by him. If signed by the Governor it will, a few days after his signature, be published in the local press, and from that date on will be a law of Wisconsin.

The gratitude of the Medical Profession of Wisconsin has been earned by the Dane County Medical Society and especially by its Committee of Twenty of which Dr. Arthur G. Sullivan of Madison was Chairman, for their earnest work in helping to secure the passage of this bill; and the help which Senator E. F. Kileen of Wautoma has given to this cause should never be forgotten.

It should be noted that the family physician is not forbidden to serve as assistant or anesthetist. There may be circumstances when no other assistance is available. But when such service is rendered the family physician must send his own bill for his services. Any compensation for such services by the surgeon or consultant will be unlawful under this bill.

P. S.—This bill was signed by the Governor June 25, and is now the law of the state.

WHOSE JOURNAL IS THIS?

Do not forget that the Journal belongs to the State Medical Society and therefore to *you*. So do its advertising pages. Read them and use them and help to make them valuable.

IODINE IN THE TREATMENT OF SMALL-POX.

Some years ago Welch and Schamberg called attention to the fact that external applications of iodine, particularly over smallpox pustules, were the best treatment out of all the different methods that they had tried. Rockhill has tried the use of 10 per cent. iodine and 90 per cent. glycerin; this is painted over the pustules two or three times a day; the results were, the drying of the pustules, the absorption of the toxin, and the arrest of the destruction of the tissue. The amount of scarring is very much lessened, and the stay in the hospital is also shortened. On the face, the pustules may be opened with a sterile lancet and then touched with the tincture of iodine. Eighty-five patients were treated by this method with no deaths, and an average stay in the hospital of twelve days. It is quite probable that this epidemic was a mild one, and that, in severe cases, the stay in the hos-

pital would not be as short, nor the results so satisfactory from the standpoint of mortality.

—*Progressive Medicine.*

A NEW REACTION FOR DIFFERENTIATING SCARLET FEVER AND SIMILAR ERUPTIONS.

Umber believes that he has found a valuable method of differentiating between the rash of scarlet fever and the rashes similar in appearance due to other causes. The reaction he uses is that suggested by Ehrlich, under the name of paradimethylamidobenzaldehyde reaction. Umber found it positive in 93 cases out of 96 in scarlet fever, and in 60 cases of rashes which were not scarlet fever, the reaction was negative in 59 and doubtful in one.

The reaction is found in freshly passed urine. The reagent for it is made by titrating in a mortar two grams of paradimethylamidobenzaldehyde with 30 grams of concentrated hydrochloric acid, and then diluting this mixture with 70 c. c. of water and filtering. Two drops of this reagent are added to the urine, and on heating, and sometimes even when cold, one sees a red discoloration, and, if examined with the spectroscope, there is a color-absorption band between lines D and E of the spectrum. The reaction is also found in polyarticular rheumatism. It is due to the presence of urobilinogen in the urine. This observation is of considerable interest, as it is often extremely desirable to be able to make a rapid differentiation of skin rashes. It will, however, have to be confirmed by a much larger series of cases than Umber presents before it can be recommended for general use.

—*Progressive Medicine.*

RESOLUTIONS ADOPTED ON THE DEATH OF DR. O. T. HOUGEN.

TO THE NINTH COUNCILOR DISTRICT MEDICAL SOCIETY:

Whereas, An All-wise Providence has removed from our Association our beloved friend, confrere and Councilor DR. O. T. HOUGEN,

Therefore, Be it Resolved, That this Association has lost a worthy Councilor, the Profession an honorable member, and the Community an upright and cultured citizen.

Be it Further Resolved, That a copy of these

resolutions be spread upon the minutes of this society, published in the Wisconsin Medical Journal, and a copy sent to the widow.

W. M. RUCKLE.

FRANK POMAINVILLE.

F. A. SOUTHWICK.

Committee.

CORRESPONDENCE

Committee on Red Cross Medical Work of the American Medical Association, Washington, D. C.

February 14, 1913.

To the Secretary, County Medical Society.

Dear Sir:

The undersigned have been constituted a committee by the President of the American Medical Association to co-operate with the American Red Cross, in the matter of medical work.

The Committee feels that a great deal of substantial good will come to all communities by providing a body of representative physicians of approved qualifications to direct or participate in medical work carried on by the Red Cross in different localities in times of emergencies and to advise with the representatives of that society on questions of medical policy and procedure. Besides its activity in emergency relief work, the Red Cross is engaged in an educational campaign for the mitigation of human suffering and the saving of lives. So far it has extended this movement only to the teaching of prevention of accidents and first aid to the injured, but it is hoped in future that it shall include popular instruction in the prevention of disease. These medical committees are not in any way bound to this educational work of the Red Cross, but members of the committees who may be interested are invited to correspond with the First Aid Department of the Red Cross.

In the opinion of this committee, the plan may be properly considered under the following headings:

1. OBJECT. Primarily this service is designed to meet local emergencies when conditions of disaster are such as to call for the intervention of the Red Cross. When exigencies come about in any community the Red Cross would be glad to feel that it might call upon carefully selected physicians in that community to lend their aid in the medical work incident to the situation.

2. ORGANIZATION. It is desired to have in every county a central committee of five physicians, two of whom shall be the President and Secretary of the County Medical Society, *ex officio*. The President of the County Medical Society shall select the other three members, preferably from the list of councilors or of the executive committee. This committee should be designated the "Committee on Red Cross Medical Work." The names and residences of the members, immediately after organization, should be reported to the chairman of the American Medical Association Committee. In case of disaster, requiring relief action by the Red Cross, these county committees will be called upon to nominate qualified medical men in their respective counties for Red Cross service. The committees will also serve in an advisory medical capacity to the Red Cross in time of disaster and in other lines of Red Cross activity as indicated in a preceding paragraph.

3. QUALIFICATIONS. The certificate of Physicians by County Committees will be accepted as ample evidence of the physical, moral and professional qualifications of the gentlemen recommended for appointment. It may be pertinent to state that service in time of disaster may entail severe physical effort and physical fitness of appointees to perform hard work is, therefore important.

4. COMPENSATION. In some instances the Red Cross may require the services of physicians at a distance from their places of residence and for varying periods. Under these conditions the Red Cross will be prepared to pay traveling expenses and a moderate honorarium to be agreed upon between the physicians and the National Director of the Red Cross.

It will be obvious to you that the arrangement here proposed is primarily intended to provide for emergencies which may suddenly arise in any community or, on the other hand, may happily never occur. Thus it may be that the committee which we are inviting you to create may never be called into action, while, on the other hand, it may have occasion to perform a very great public service. Your co-operation in the completion of this plan at as early a date as convenient will be appreciated.

Please address all communications bearing upon the contents of this letter to the Chairman, Doctor

George M. Kozer, c/o The American Red Cross, 715 Union Trust Building, Washington, D. C.

Very respectfully,

GEORGE M. KOBER, M. D.

Chairman.

F. A. WINTER,

Lt. Colonel, Medical Corps, U. S. Army.

E. M. BLACKWELL,

Surgeon, U. S. Navy.

At a meeting of the Executive Committee of the American National Red Cross held in Washington, D. C., February 14, 1913, the foregoing plan of co-operation between the medical profession and the Red Cross was unanimously approved.

GEORGE W. DAVIS,

Major General, U. S. A., retired.

Chairman, Central Committee.

CHARLES L. MAGEE,

Secretary.

NEWS ITEMS AND PERSONALS

DR. JOHN R. McDILL, Milwaukee, has been named associate professor of surgery at the University of Chicago. He will continue to reside at Milwaukee.

DR. J. G. HOFFMAN, Hartford, has entered into partnership with his father, Dr. P. A. Hoffman, at Campbellsport, where he takes up the practice of his brother, the late Dr. M. A. T. Hoffman.

DRS. ROGERS AND HOFFMAN, Hartford, dissolved partnership on May 31. Dr. Hoffman will be succeeded by Dr. Lehman.

The jury in the case of Dr. J. P. Connell vs. Dr. J. W. Ehmer, returned a verdict in favor of the plaintiff, and assessed damages in the sum of \$5,500. The verdict is a sequel to a slander and libel suit.

DR. ROCK SLEYSER, for the past three years prison physician at Waupun, has been appointed by the Board of Control to the position of superintendent and steward of the new criminal insane hospital. Dr. Sleyser's appointment takes effect July 1st. and at that time he will resign his position at the prison and likewise discontinue his city office and private practice.

DR. EDWARD HOUGEN of Pittsville, will take up

the practice vacated by the death of his brother, Dr. O. T. Hougen, at Grand Rapids.

Dr. H. A. NORDEN, for the past 14 years located at Sturgeon Bay, has accepted the position of superintendent of the Chicago-Winfield Tuberculosis Sanitarium, located at Winfield, a suburb of Chicago.

Dr. H. A. MEILIKE has been appointed city physician of Clintonville, to succeed the late Dr. G. M. Goodrich.

Dr. D. J. HAYES, Milwaukee, who sustained a serious injury in an automobile accident on December 25th, has recovered and resumed his practice.

Dr. D. J. CAMPBELL, of Dunbar, has left for a trip to Europe.

Jefferson, Wisconsin, has an epidemic of scarlet fever.

The Medical School of Marquette University has been placed in Class A by Dr. N. P. Colwell, representative of the A. M. A.

Dr. J. G. HOFFMAN, who recently disposed of his interest in the office of Drs. Rogers and Hoffman at Hartford, to Dr. Lehman, with the intention of removing to Campbellsport, has reconsidered that decision and will remain at Hartford.

Dr. H. J. WELD, of Campbellsport, sustained severe injuries about the head as a result of an automobile accident.

Dr. R. E. RUGH, Lake Geneva, has removed to Racine.

HEALTH COMMISSIONER F. A. KRAFT of Milwaukee was re-elected president of the Wisconsin Eclectic Medical Society at its recent meeting in Milwaukee.

MARRIAGES

Dr. C. W. Leonard and Miss Gertrude L. Lewis, both of Fond du Lac, June 11th.

Dr. Jacob O. McCracken, Kenosha, and Miss Blanche L. Hasty, Chicago, May 22nd.

REMOVALS

Dr. W. H. Dohearty, Pound to Peshtigo.

Dr. A. M. Foster, Appleton to Hilbert.

Dr. M. A. Fronev, Sheboygan to Neenah.

Dr. A. C. Aylward, Port Edwards to Madison.

Dr. J. H. Blekking, Sheboygan Falls to Stratford.

Dr. J. T. Corr, Formerly of Franksville, later of Kenosha, has located at Racine.

Dr. F. R. Hyslop, Whitewater, has gone to Idaho to take up an irrigated government claim. He will be succeeded at Whitewater by Dr. Wesley J. Hummel of Green Bay.

DEATHS

Dr. Thomas Henry Heffernan, Dubuque, Iowa, formerly of Platteville, died on May 14th, aged 45 years.

Dr. C. P. Bunsen, for many years a resident of Galesville, died at Winona, Ill., on May 22nd, aged 82 years.

Dr. Bunsen was born in the city of Frankfurt, Germany, and resided there until 16 years of age, when he entered the University of Carlo Roruberta in the city of Heidelberg, and was graduated in 1855 from the medical department. He resided for a time in Paris, also in St. Petersburg. In 1864 he came to America, settling at Cassville, Wis., where he remained one year and then removed to Illinois. He again moved to Wisconsin, settling at Galesville, where he practiced many years. Two years ago he removed to Winona, Ill.

Dr. William Tillman, of Stoddard, died at La Crosse on June 4, aged 53 years. Dr. Tillman was born in La Crosse and received his medical education in Germany.

Dr. M. A. T. Hoffman, Campbellsport, was instantly killed on May 19, when his automobile was struck by a Northwestern passenger train two miles south of Campbellsport.

Matthew A. T. Hoffman was born in Johnsburg, Wisconsin, October 27, 1878. After residing at Theresa, Wisconsin, and North Washington, Iowa, he removed to Campbellsport with his parents. He received his early education at St. Matthews School and at St. Lawrence College at Mount Calvary. He then entered the Wisconsin College of Physicians and Surgeons, graduating in 1901. After Graduation he served nine months as interne at St. Francis Hospital, La Crosse. Since 1903 he had been practicing medicine in partnership with his father at Campbellsport.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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J. J. McGOVERN, Milwaukee.

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W. T. MURPHY, Waukesha

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NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER 1-3, 1913.

The Wisconsin Medical Journal. Official Publication.

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

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Ashland-Bayfield-Iron	W. T. Rinehart, Ashland	C. J. Smiles, Ashland.
Barron-Polk-Washburn-Sawyer-Burnett	W. L. M. Knowles, Spooner	B. N. Webster, Rice Lake.
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Calumet	E. L. Bolton, Chilton.	F. P. Knauf, Kiel.
Chippewa	C. A. Hayes, Chippewa Falls.	A. L. Beier, Chippewa Falls.
Clark	H. H. Christoffersen, Colby.	E. L. Bradbury, Neillsville.
Columbia	B. F. Bellack, Columbus.	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills.	A. J. McDowell, Soldiers Grove.
Dane	C. A. Harper, Madison.	F. S. Meade, Madison.
Dodge	H. B. Sears, Beaver Dam.	E. S. Elliott, Beaver Dam.
Door		N. Z. Wagener, Sturgeon Bay.
Douglas	T. J. O'Leary, Superior.	W. E. Hatch, Superior.
Dunn-Pepin	F. H. Granuis, Menomonie.	L. A. Dahl, Menomonie.
Eau Claire	A. L. Payne, Eau Claire.	E. E. Tupper, Eau Claire.
Fond du Lac	L. A. Bishop, Fond du Lac.	F. A. Read, Fond du Lac.
Grant	J. C. Betz, Boscobel.	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe.	S. R. Moyer, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	R. H. Buckland, Green Lake.
Iowa	J. P. Parnley, Mineral Point.	H. D. Ludden, Mineral Point.
Jefferson	W. T. Clark, Ft. Atkinson	C. R. Feld, Watertown.
Juneau	T. S. Lawler, Lyndon Station.	A. T. Gregory, Elroy.
Kenosha	William Pugh, Kenosha.	C. H. Gephart, Kenosha.
La Crosse	Oscar Houck, La Crosse.	G. W. Lueck, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	Susanne Orton, Darlington.
Langlade	G. W. Moore, Antigo.	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill.	Herbert Saylor, Merrill.
Manitowoc	Max Staehle, Manitowoc.	A. J. Shmek, Manitowoc.
Marathon	F. C. Nichols, Wausau.	J. R. Bryant, Wausau.
Marinette-Florence	H. F. Schroeder, Marinette.	M. D. Bird, Marinette.
Milwaukee-Ozaukee	C. H. Lemon, Milwaukee.	Daniel Hopkinson, Milwaukee.
Monroe	A. E. Winter, Tomah.	A. R. Bell, Tomah.
Oconto	J. B. Atwood, Oconto.	R. C. Fandls, Abrams.
Oneida-Forest-Vilas	J. T. Elliott, Rhinelander.	C. A. Richards, Rhinelander.
Outagamie	C. G. Maes, Kimberly.	F. P. Dohearty, Appleton.
Pierce	A. E. Gaudron, River Falls.	S. F. Rudolf, Ellsworth.
Portage	A. E. MacMillan, Stevens Point.	W. F. Cowan, Stevens Point.
Priec-Taylor	C. E. Fenelon, Phillips.	G. H. McClure, Westboro.
Racine	J. S. Keech, Racine.	Susan Jones, Racine.
Richland	R. H. De Lap, Richland Center.	G. R. Mitchell, Richland Center.
Rock	Frank W. Van Kirk, Janesville.	F. E. Sutherland, Janesville.
Rusk	G. M. Carnahan, Bruce.	W. F. O'Connor, Ladysmith.
Sauk	F. H. Hubbert, Reedsburg.	Roger Cahoon, Baraboo.
Shawano	J. F. Ragan, Gresham.	C. E. Stuhenvoll, Shawano.
Sheboygan	J. R. Kingsley, Sheboygan.	W. F. Zierath, Sheboygan.
St. Croix	L. A. Campbell, Clear Lake.	W. H. Banks, Hudson.
Trempealeau-Jackson-Buffalo	B. P. Rosenberry, Arcadia.	G. H. Lawrence, Galesville.
Vernon	John Sehee, Westby.	F. E. Moray, Viroqua.
Walworth	H. C. Miller, Whitewater.	M. V. Dewire, Sharon.
Washington	W. J. Wehle, West Bend.	S. J. Driessel, Barton.
Waukesha	Margaret Caldwell, Waukesha.	Sara T. Elliott, Waukesha.
Waupaca	P. J. Christoffersen, Waupaca.	G. T. Dawley, New London.
Winnebago	L. P. Allen, Oshkosh.	H. W. Morgenroth, Oshkosh.
Wood	J. A. Jackson, Rudolph.	J. B. Vedder, Marshfield.

SOCIETY PROCEEDINGS

BARRON-POLK-WASHBURN-SAWYER-BURNETT COUNTY

Regular meeting of the Barron-Polk-Washburn-Sawyer-Burnett County Medical Society was held at Spooner on May 13th. Dr. O. M. Sattre presented a paper on Infant Feeding and Dr. W. L. M. Knowles read a paper on Goitre. Both were very interesting and enjoyed by all present. After the meeting a dinner was served at the Railway Hotel.

The next meeting will be held at Barron, September 2d.

B. N. WEBSTER, *Secretary*

DANE COUNTY

At the monthly meeting of the Dane County Medical Society at Turner Hall, Madison, May 11, papers were read by Drs. S. R. Boyce and C. R. Bardeen. Dr. Boyce's subject was Nasal Stenosis. Dr. Bardeen spoke on recent Advances in Applied Anatomy.

DODGE COUNTY

A special meeting of the Dodge County Medical Society was held at Minnesota Junction, June 5th, the following members being present: Drs. Sears, North, Krahn, E. P. Webb, Clark, Smith, Ramond, Goetsch, Langenfeld, Hallock, Stuesser and Van Hengel. Also Drs. Wilkinson, Wing and Peters of Oconomowoc, and last but not least, Dr. Sleyster of Waupun, commonly known as the "Head Booster."

The meeting was called to order by Dr. Sears, the newly elected president, who took it upon himself to give us a little fatherly advice, which, if followed, and it should be, would lead to a larger, stronger and better Dodge County Medical Society. Then followed an address by our worthy Councilor, Dr. Wilkinson, of Oconomowoc, along the same lines as Dr. Sears had led us, only to broaden out and give us visions of district meetings to be held jointly with Waukesha and Jefferson Counties. Then came the "Head Booster," Dr. Sleyster, and what he told us was enough to make each and every member blush with shame to think he had not contributed his little mite to keep Dodge County Medical Society alive at least. After he finished telling us what he thought of us, he opened up as a true booster should and assured us of his support in an effort to get Dodge County Medical Society back where she belongs in relation to other County Medical Societies and the State Society.

Following this address we adjourned to partake of a big chicken dinner. After dinner, which was served at the Maple Shade Hotel, every one went back to the hall where dessert was served by no less a person than Dr. Thomas Hay of Stevens Point and what a treat it was for us all to hear all about the Friedmann Cure from one who had been so closely associated with Dr. Friedmann during his stay in New York. After exploding the Friedmann Cure he talked on the early diagnosis of tuberculosis and laid down the lines of treatment from which we might expect results. A rising vote of thanks was extended to Dr. Hay by every one present.

Dr. Hallock extended an invitation to the Society to meet at the County Asylum the fore part of July and he would secure Dr. Lorenz of Mendota as speaker for the day. This invitation was accepted and the meeting adjourned.

E. S. Elliott, *Secretary*.

FOND DU LAC COUNTY

The Fond du Lac County Medical Society held a profitable meeting at the Bellevue Hotel, Fond du Lac, May 15th. Dr. F. S. Wiley read a paper on Nephritis, and Dr. J. R. Longley spoke on "Blood Pressure in General." Dr. H. E. Twohig was to have discussed a phase of nephritis, but being ill was unable to attend the meeting. His subject was covered by Dr. Wiley.

GRANT COUNTY

The regular meeting of the Grant County Medical Society was held at Bloomington, Wednesday, June 4th. This meeting had been postponed for nearly a month on account of inclement weather. We were now favored with a beautiful June day and good roads, so the attendance was unusually large.

There were present: Drs. J. Godfrey, W. P. Hartford, R. H. Kinney, J. H. Fowler, E. Kraut, E. D. Orr, J. C. Doolittle, M. A. Bailey, E. C. Howell, W. Cunningham, C. H. E. Wheeler, J. C. Betz, H. J. McLaughlin, R. R. Harris, F. J. Antoine, J. J. DeMers, F. E. Blackburn, J. E. Heraty, J. M. Lewis, O. P. Sala, E. H. Brooks, U. S. Lewis, Dr. Hoffman, Dr. Jones, S. A. Marlow and M. B. Glasier.

Dinner, the first number on the program, was furnished by the local physicians, Drs. J. E. Heraty, J. M. Lewis and M. B. Glasier, and was served at the home of the latter. Music by a male quartette, consisting of M. F. Woodhouse, A. C. Bishop, DeForest Brown and Ralph Hoskins; solos by Miss Edith Ballantine and Dr. E. H. Brooks of Appleton; toasts, with Dr. W. P. Hartford as toastmaster, and responses by Drs. Antoine, Harris, Bailey, Blackburn, Lewis and others, enlivened and made cheerful the dinner hour.

Adjournment was then made to the Bank Hall, where the following program was carried out: A paper "Value of the X-Ray in the Treatment of Fractures with Illustrations," by Dr. J. C. Doolittle; a paper on "Gall-Stone Disease," by Dr. W. Cunningham; "Report of an Interesting Case," by Dr. J. C. Betz, followed by reports of cases by other members present.

The spirit of fellowship and good cheer, the excellency of the papers and the free discussions made this a most enjoyable and profitable meeting.

By invitation of Drs. W. P. Hartford and J. J. DeMers, the September or annual outing meeting will be held at Cassville.

M. B. GLASIER, *Secretary*.

RACINE COUNTY

The Racine County Medical Society held an interesting meeting in the Health Department Rooms in the City Hall May 15, 1913. The attendance was good.

Dr. Geo. W. Nott of Racine prepared an excellent paper on Lane Bone Plates, but being unable to attend

the meeting, it was read by one of the members of the Society. The paper was ably discussed by Dr. L. E. Fazen of Racine. The subject of "Suppurative Tonsillitis" was discussed in a general manner.

The next meeting will be held at the Lakeside Hotel, Brown's Lake, Thursday, June 26, 1913, at 2:30 P. M.
SUSAN JONES, *Secretary*.

ROCK COUNTY

Members of the Rock County Medical Society enjoyed a banquet at the Myers Hotel at Janesville on May 27th. Nearly one hundred attended. The program was as follows:

Toast: To the Physician's Wife.

"The ladies—God bless 'em!
May nothing distress 'em,
Though sometimes we doubt 'em,
We can't live without 'em."

Violin SoloMiss Wina Soverhill
President's AddressDr. F. W. Van Kirk
"Some of the Gifts of Science to the World".....

.....Dr. Wm. E. Quine, Chicago

Toast: To the Physician:

Smile just kind of cheerfully
When hope is almost gone,
And bristle up and grit your teeth
And keep on keeping on.

WINNEBAGO AND OUTAGAMIE COUNTY

The Winnebago and Outagamie County Medical Societies held a joint meeting at the Hotel Neenah. The gathering was in the form of a banquet. Dr. N. P. Mills of Appleton, read a paper on "Brain Abscess."

NINTH COUNCILOR DISTRICT

The Ninth District Medical Society, comprising the counties of Marathon, Portage, Shawano, Waushara, Wood and Waupaca, held their annual meeting at Stevens Point last Thursday. Dr. L. H. Pelton of Waupaca was re-elected president, Dr. J. D. Smith, Wausau, Secretary. The next meeting will be held in July and will be either at Grand Rapids or Waupaca.

BOOK REVIEWS

THE SURGERY OF ORAL DISEASES AND MALFORMATIONS. THEIR DIAGNOSIS AND TREATMENT. By George V. I. Brown, D. D. S., M. D., Oral Surgeon to St. Mary's Hospital and to the Children's Free Hospital, Milwaukee; Professor of Oral Surgery, Southern Dental College, Atlanta, Ga. Octavo, 740 pages, with 359 engravings and 21 plates. Cloth, \$6.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1912.

This volume is one of especial interest to readers of the Wisconsin Medical Journal as it comes from the pen and represents the activities of one of the best known members of the State Medical Society of Wisconsin.

In this comprehensive work the author presents for our consideration not only oral diseases and malformations but also a compact discussion of those general diseases which have direct relationships to the mouth

and the adjacent structures, or which may manifest themselves in this area.

As operative procedures in the regions under consideration present special problems in regard to anesthesia, hemorrhage, and shock, the book opens with a discussion of these subjects from the point of view of the oral surgeon. This is followed by a chapter on pathological dentition containing much matter of general interest to the practitioner of internal medicine as well as to the special worker in oral surgery.

Under the heading of Infectious Diseases, a large number of general diseases having oral manifestations are discussed, such as tuberculosis, syphilis, actinomycosis, and leprosy; while in a succeeding chapter are discussed those diseases of the nervous system—brain, cord, and peripheral nerves—which are related etiologically, symptomatically, or otherwise to the region of the mouth, face, and jaws. In this connection there is an extended consideration of the surgical methods of treatment in neuralgia, particularly of the fifth nerve, to which is appended a tabulation of the results of treatment in 42 cases, so that the reader may be able to have something definite on which to base his judgment when his advice is sought in these cases.

An excellent chapter is devoted to diseases of the maxillary sinus.

In the chapter on nasal deformities and diseases in relation to the maxillae the author presents the results of his original work together with his experimental work on dogs, showing the important relation existing between partial stenosis of the upper air passages and the general health of the individual.

The concluding chapter on harelip, cleft palate, and defects of speech is a valuable monograph in itself and is enriched by very numerous illustrations showing the successive steps of the operations described and also numerous pictures of cases before and after operation so that a clear idea of the results may be gained.

As a specimen of book-making the publishers have a right to take pride in their work and the numerous colored plates are of unusual accuracy and value.

GOLDEN RULES OF DIAGNOSIS AND TREATMENT OF DISEASES. By Henry A. Cables, B. S., M. D., Professor of Medicine and Clinical Medicine of the College of Physicians and Surgeons, St. Louis. Second Edition, revised and rewritten. C. V. Mosby Company, St. Louis, 1913. Price, \$2.25.

"There are many urgent instances when the physician needs a book of ready reference of diagnosis, treatment, and remedial procedure. To meet this condition, and to assist the busy physician and the progressive student in obtaining the needed information readily and authentically, this book has been prepared.

"This book is an epitome of a careful and extensive examination of the literature on the subjects considered supplemented by the author's experience in private and hospital practice."

The book has been rewritten since the first edition was published and new rules have been added where experience has demonstrated that they were of value.

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ORIGINAL ARTICLES

THE TREATMENT OF DIPHTHERIA-CARRIERS BY OVERRIDING WITH STAPHYLOCOCCUS AUREUS.*

BY W. F. LORENZ, M. D.,
MENDOTA, WIS.

AND

MAZYCK P. RAVENEL, M. D.,
DIRECTOR, STATE HYGIENIC LABORATORY, UNIVERSITY OF
WISCONSIN,
MADISON, WIS.

The practice of "overriding" the throats of chronic diphtheria-carriers with suspensions of *Staphylococcus aureus* was introduced by Schiotz¹ in 1909. He was led to the use of *Staphylococcus aureus* by the observation that a patient with a sore throat due to the staphylococcus did not contract diphtheria when exposed, and also that several convalescents failed to show positive diphtheria after an attack of staphylococcus sore throat. He treated six cases with prompt disappearance of diphtheria bacilli in all of them.

Page², in 1911, reported the successful use of staphylococcus in one case in which the bacilli had persisted in the throat for three months after clinical recovery.

In 1911, Catlin, Scott, and Day,³ of Rockford, Ill., reported the successful use of staphylococcus in eight cases on the advice of Dr. Harris of Chicago.

Lydia M. De Witt⁴ has carried out an extensive series of experiments in animals. She reports that of thirty-two animals inoculated with diphtheria and afterward treated with a staphylococcus culture, nine were apparently not influenced by the treatment, fourteen were worse, and nine better. De Witt concludes that there is no rational basis for treating diphtheria cases with *Staphylococcus aureus*. She reports also two cases of sore throat in which diphtheria developed and in one gained and kept the ascendancy. De Witt admits, however,

that the animal experiments indicate that a certain percentage of acute cases may clear up more quickly under staphylococcus treatment than under ordinary antiseptic treatment.

These favorable reports induced us to try the method in a troublesome outbreak of diphtheria in the State Hospital at Mendota, the clinical report of which is given here by Dr. Lorenz.

During this epidemic carriers were found and were the source of considerable annoyance. The usual antiseptic methods of treating these cases were found ineffective and at the suggestion of Dr. Ravenel, pure cultures of *Staphylococcus pyogenes aureus* were used. Various strains were tried, though the results were the same irrespective of the strain used.

In the diagnosis of the cases here reported every effort was made to rule out the personal equation. For the most part cultures were examined by two of us in the laboratory. At our request Dr. Lorenz did not indicate which patients were receiving the staphylococcus spray and which not.

In all, seventeen patients received this form of treatment. Three were carriers pure and simple, that is, they never showed clinical manifestations either local or constitutional. We will refer to this type of carrier as Class 1. Six patients showed clinical symptoms of diphtheria. The local signs ranged from congestion or hyperemia to distinct membrane formation. These patients had all received the routine local antiseptics but persisted as carriers long after convalescence had been established. We will refer to these as Class 2. In eight cases the staphylococcus spray was used early in the course of the diphtheria. In these instances no other form of local treatment was employed (with one exception.) The treatment was begun immediately after the first positive or suspicious bacteriologic report had been received.

The results in Class 1 were uniformly good. In applications of the spray. Three months later one of these patients again became a carrier and the two cases negative reports were received after six

*Read at the Sixty-sixth Annual Meeting of the State Medical Society of Wisconsin, Wausau, May 22, 1912.

reinfection was cured in the same manner. The third case did not clear up under the staphylococcus spray alone though after a combination of nasal and throat application negative cultural reports were received. In this instance nine combined applications were made three successive days while in the first two cases six applications sufficed to bring about a cure. These three patients were attendants on duty in the isolation ward and, as previously mentioned, never showed clinical manifestations of diphtheria.

The six patients referred to as carriers of the second class received the following treatment during the acute stage of the diphtheria: antitoxin in various amounts from 5,000 to 25,000 units, some by the intravenous method and others by deep muscular injections. The local treatment used was hot saline douches every four hours alternating with a spray of liquor antisepticus, liquor sodii boratis compositus (Dobell's solution), potassium permanganate solution, chlorin water or mercuric chlorid solution. In spite of this treatment the throats continued to show the diphtheria bacillus long after the patient was well, in one instance, nine weeks. The average was seven weeks.

The local antiseptic treatment was discarded and the staphylococcus spray was substituted. Four of the cases cleared up within one week; in two the results were not so good. These exceptions can possibly be accounted for and a more detailed report is warranted.

CASE 1.—The patient, E. F., was first isolated owing to a congestive condition of the throat. The first bacteriologic report was "suspicious." The clinical manifestations rapidly improved following the administration of antitoxin and local antiseptics. The patient was discharged from quarantine after three consecutive negative cultures had been obtained. These cultures were made at two-day intervals. One week after the last negative culture a fourth swab taken was reported as "suspicious" and the patient was again isolated. Staphylococcus spray was now employed and after four applications made at four-hour intervals two negative reports were received. In this and the other cases no local treatment whatever was given during the time negative reports were being received. A third swab taken eight days after the first negative was diagnosed as "positive." The spray was then applied on the two succeeding days at four-hour intervals, and the bacteriological reports following were "sus-

picious" and one day later "positive." The combined method of application was now used. In all, twelve applications were thus made, and following this procedure three negative reports were obtained over a period of two weeks. Ordinarily this was sufficient to warrant removal from isolation, yet a fourth swab was made and much to our surprise the report returned was "positive." The combined method was again resorted to and for six days applications were made at four-hour intervals (three per day). This was followed by five negative cultures, though one of a "few suspicious organisms" was found between the second and third examinations.

The peculiar course is rather difficult of explanation. The recurrence of positive cultures after two and even three negative findings may have been due to reinfection, the patient having been on the diphtheria ward throughout this period. On the other hand, the possibility of a focus of infection so situated in the naso-pharynx as to prevent proper application of the spray must be considered. In all, this patient received the staphylococcus spray six weeks before the repeatedly negative cultures were obtained.

CASE 2.—Patient, H. O., of Class 2, is equally interesting and exceptional. This patient had a moderately severe clinical diphtheria. He received the routine treatment mentioned and was removed from the isolation ward after two negative reports had been received. Up to this time he had been in isolation fifty-two days. One month after his removal he showed a slightly inflamed condition of the tonsils. The bacteriologic report made was "positive." The patient was then returned to the diphtheria ward and treatment with the staphylococcus spray was started. At first the throat spray alone was used and the cultures continued "positive." The combined method was then employed and after nine applications made on three succeeding days, the first "negative" report was received. After a week of non-treatment the swab taken was reported as "positive." This fluctuation from negative to positive continued several times after three negatives had been obtained. In fact, four negatives and two suspicious cultures were made from this throat during a period of sixteen days, when a return to positive occurred. At this point massage of the tonsils was attempted. Pressure was made about the tonsil with an ordinary tongue depressor. Accompanying this procedure

staphylococcus spray in extremely concentrated form was used, and finally a series of negative cultures was received.

In this case fifty days of treatment with staphylococcus spray elapsed before the patient was thought to be cured. In this instance it seems probable that the source of trouble lay in the large spongy tonsil, and it seems to illustrate the condition which has received special attention by Dr. Kretschmer,⁵ namely, that the diphtheria bacilli are harbored in the crypts of the tonsils in many instances.

We give a history of several other cases as follows:

CASE 3.—The patient, W. F. D., a student at the University of Wisconsin, became ill with diphtheria, Feb. 5, 1912. Antitoxin was administered and clinical recovery was prompt, but diphtheria bacilli persisted in the throat. On the twenty-sixth day Dr. H. M. Kay, the physician in charge, asked advice concerning the matter. We recommended to him the use of the staphylococcus spray. This was supplied to him in the form of a twelve-hour old culture in bouillon, the directions being to spray it thoroughly into the throat and nares. Thirty-six hours later a culture taken was negative to diphtheria, and five consecutive cultures remained negative. In this case the action of the staphylococcus spray was rapid and permanent.

CASE 4.—X, a boy, aged 13, was taken out of school as he was found to be carrying an almost pure culture of Klebs-Loeffler bacilli. As the condition persisted for over two weeks, Dr. J. M. Furstman, health officer of LaCrosse, consulted the State Hygienic Laboratory, and cultures of the staphylococcus fifteen hours old were sent to him. The throat was sprayed every second day. At the third spraying, the number of diphtheria bacilli was very much decreased. The fourth culture also showed diphtheria bacilli, but four subsequent cultures remained negative. -

CASE 5.—In a factory in the city of LaCrosse, owing to an outbreak of diphtheria, the throats of approximately 350 operatives were examined. Six carriers were found and isolated. Five of these cleared up under ordinary treatment within a week. The diphtheria bacilli persisted in the sixth patient, a woman aged 19. Dr. Furstman began the use of the staphylococcus spray, using it, however, only every second day. Two cultures from the

throat after the beginning of the spray were positive, but after that all cultures taken remained negative.

RESULTS OF USING THE SPRAY.

The use of the staphylococcus spray early in the course of diphtheria was tried in eight cases. Each patient received antitoxin, though locally no treatment other than the staphylococcus was used (except in one case). In four of these cases the results were very good; that is, negative cultures were obtained within one week and after the use of four to eight applications of the spray. The duration of the entire quarantine in these cases was from six to fourteen days. Two cases were clinically typical while two were mild, the local manifestations being simply a congestion of moderate severity.

In three cases the results were fair. Almost invariably after six or eight applications were made the first swab taken would be negative. In several instances this negative finding was repeated only to be followed by a positive. The duration of suspicious or positive reports in these three cases were twenty, twenty-two, and thirty-six days, respectively.

One case was mild; there was no membrane and very slight constitutional reaction. The throat symptoms cleared up within a few days after the administration of the antitoxin though the cultural reports continued positive. Frequently two and even three consecutive cultures would be negative and the next positive. On one occasion the throat continued negative for nine days when a return to positive occurred. At this point the staphylococcus spray was abandoned and a 1:2,000 solution of mercuric chlorid was used. Six applications were made, but a culture taken was reported as "positive, almost pure culture." The former treatment was then resumed and finally the case cleared up. The total duration was thirty-nine days.

In the last series of cases the staphylococcus spray was not used until the first swab had been reported on, while the antitoxin was usually given at the first indication of any throat involvement, irrespective of its severity; in fact, many patients had had immunizing doses. The result was that local signs of involvement had in most instances disappeared by the time the spray was used. In other words, no effect on local manifestations of

diphtheria was observed following the use of the staphylococcus spray. In those cases in which membrane was present the spray was not used until after the membrane had separated.

The method of employment was arrived at in a rather tentative manner. Our early timidity and caution, judging from subsequent experience, was unwarranted. Over 200 applications were made and the few exceedingly mild conditions, attributable to staphylococcal infection would indicate that the method is essentially a safe procedure.

A combined nasal and throat spray is advised, to be given at four-hour intervals on two succeeding days; the first swab for examination should be made on the third day.

The preparation used is a fresh suspension of the *staphylococcus pyogenes aureus* in normal saline solution or a bouillon culture twelve hours old. An effort was made to keep the spray at a temperature of about 96° F. The application itself was made first into the pharynx, the spray being directed over the uvula, each tonsil and the posterior wall of the pharynx. Following this the application was made into each nostril. The amount used was sufficient to produce a "dripping-wet" condition of the pharynx and the nasal cavities were sprayed until, as one patient expressed it, "I can feel it run down the back of my throat."

The untoward symptoms attributable to staphylococcal infection can practically be ignored. Three patients developed a coryza and one an exceedingly mild laryngitis, while two developed small furuncles at the tip of the nose. Other than these trivial conditions no complications or sequelæ developed in any of the cases treated.

In the last series of cases it seems that better results were obtained in those patients treated with the staphylococcus spray than in those treated by the ordinary antiseptic application. With one exception no other form of local treatment was used. Consequently, we feel justified in attributing the results entirely to the use of the staphylococcus spray.

The variability of results in the two classes of carriers arbitrarily referred to as Class 1 and Class 2 can possibly be explained on the following ground: In the first class it is presumed that the location of the diphtheria bacilli is superficial, the intact mucous membrane, or immunity of the individual, or both, preventing propagation and systemic infection; and the spray can come into

direct contact with the bacilli. The less successful termination in Class 2 may be caused by the less accessible position of the diphtheria bacilli. Those superficially located are probably acted on as indicated by the fact that one or more negative cultures immediately following the use of the staphylococcus spray are almost always obtained. The later "positive" findings are probably due to the bacilli deep in the glandular crypts, which are possibly protected by plugs of mucus or detritus.

CONCLUSIONS.

1. Pure cultures of *Staphylococcus pyogenes aureus* sprayed into the throat and nasal cavity will cause a disappearance of diphtheria bacilli.
2. The above-described method of treatment is most effective in carriers of the first class.

1. Schiøtz; Ugeskr. f. Læger, 1909, lxxi. No. 49; abstr. in The Journal, A. M. A., Jan 29, 1910, p. 422.
2. Page, H.; Arch. Int. Med., Jan. 15, 1911.
3. Catlin, S. R., Scott, L. C., and Day, D. W.; The Journal, A. M. A., Oct. 28, 1911, p. 1452.
4. DeWitt, Lydia M.; Jour. Infect. Dis., January, 1912.
5. Kretschmer, quoted by Ruhrah, John; Prog. Med., March, 1912.

DISCUSSION.

DR. M. P. RAVENEL, Madison: In making these diagnoses for this Mendota outbreak, Carl W. Smith, the bacteriologist of the laboratory, and myself, who did all this work, requested Dr. Lorenz not to tell us which patients were being treated and which not. In that way we ruled out the personal equation as far as possible. I have three other cases to add to these which I am able to report, the first through the kindness of Dr. H. A. Kay at Madison, a student at the University, who after clinical recovery carried diphtheria 26 days. On the 27th day Dr. Kay used the staphylococcus spray. After 24 hours use of staphylococcus spray we took a culture which was negative; and thereafter five successive cultures were negative. In that case one day's application of the staphylococcus spray stopped the carrying of the diphtheria bacteria.

The other two cases I am able to report through the kindness of Dr. Furstman, health officer of La Crosse, to whom we sent cultures of staphylococcus. The first case was that of a boy, who after he got out of the institution, gave a pure culture of diphtheria three weeks after clinical recovery. Dr. Furstman sprayed the throat every other day. After three days of alternating treatment, he obtained three positive cultures; and then disappearance with five negative cultures. If that spray had been used every day I have no doubt that the carrying would have been cut very much shorter.

The second case Dr. Furstman has tried it in occurred in the examination of a factory, where six children were found. Five of them cleared up under ordinary treat-

ment; the 6th persisted, however, and then Dr. Furstman tried the spray on that case. He sprayed that twice, and after that obtained negative cultures consecutively. Now, as the result that Dr. Lorenz has obtained, together with the result quoted from other observers, together with our own, make us feel that we have in the use of the staphylococcus spray, the so-called method of over-riding, a valuable means of treating diphtheria carriers, whether they are pure carriers or simply cases in which bacilli persist.

You all have noticed that the laboratory has sent out to the Board of Health notices that we will supply this material to any physician in the state who has trouble from diphtheria cases. In all of these cases we insist on making a diagnosis ourselves, examining swabs from the throat, and then we will send a properly prepared culture of staphylococcus aureus, with full directions. We have tried polyvalent and single cultures, and can see no difference in them. After that, of course, we wish to examine the swabs also, to see at what time the culture disappears. (Applause.)

DR. C. A. HARPER, Madison: I believe we have a very valuable means in this staphylococcus spray, of curing diphtheria carriers. Recent investigations have shown us that the chronic diphtheria carrier is much more frequent than we formerly anticipated. I know some years ago in an institution of 54 children we had diphtheria almost continuously. Finally we took the method of swabbing the throat of every child in the institution, whether it showed any clinical symptoms or not, and of the 54 throats examined by swabbing, 23 showed positive cultures in the laboratory. We isolated these 23 children, continued the local treatment under the usual custom, until we gradually eliminated the number down to one, and we kept one little fellow away from his playmates nearly 14 months, and still failed to eliminate the diphtheria germ. In the meantime, however, he would break over the bounds a little bit, and join some of his other playmates in the institution. And immediately we would have the clinical symptoms of diphtheria present in some of these children.

Now, we had no method of this kind; we used all the usual methods to destroy the activity of that germ; and finally it became necessary to take the child away from the institution, take him out to a country home, put him with some people where there were no children, and set him to work; and we had no more trouble; nor have we had any with him since; nor were there any other cases appearing in this institution; while for a long period of time prior to the isolation of this boy, there were constant and continuous outbreaks. The boy was well clinically, but we had him under observation for 14 months.

I believe that we should exercise great care in crowded communities, particularly when diphtheria is present, after making the repeated swabbings of the throat to be sure before the individual is given his freedom, that he is not a carrier of this disease, and particularly that he may not be classed as a common carrier. This, I believe, is going to help us out of many situations that formerly were serious.

DR. CHARLES GORST, Mendota: The experience we have had at Mendota, with what other work has been done along this line, helps to prove that it is possible to destroy the diphtheria germ in the throat of the carrier with the staphylococcus spray, providing that the throat is not too much diseased, or the tonsil is not in a diseased condition where the germ may be covered up. If there is a chance that the germ be covered there should be a method of getting the spray deep down into the depression.

It is absolutely necessary in an institution where two or three negative results are found in a number of persons that we have a detention building, because a positive has been found several days after a number of negatives.

We had a very serious time last winter at the hospital. There were about fifty cases of diphtheria and many of them we would have said clinically were not diphtheria had we not had the use of the state hygienic laboratory. We called Dr. Ravenel by phone one morning and said, "It seems clinically as though you were quite wrong in this certain case." He said, "Oh, no, doctor, that is a very severe case." There was no temperature; there was no infection in the throat; there was no membrane; it was one of our pupil nurses; but within three days this case proved to be a very severe one. So we gave Dr. Ravenel credit for being right.

It is necessary to have a place of detention where one can take care of a case after it has been found negative 2, 3 or 4 times, providing those negatives are close together.

DR. RAVENEL: After several of these persistent cases had been observed I sometimes wondered if we were wrong, or if we were dealing with a diphtheroid organism, until these few clinical cases came up, and particularly the one Dr. Gorst tells about; but these cases confirmed my faith in laboratory work. In the laboratory work we have asked to know as little as possible of the case, in order to rule out the personal equation.

DR. L. M. WARFIELD, Wauwatosa: As I understand these cultures, the staphylococcus is virulent. Would they kill guinea pigs, for instance?

DR. RAVENEL: Yes, sir—they are virulent.

DR. FURSTMAN: I would like to ask what Dr. Ravenel thinks of the virulence of the organism in the carriers after they have persisted in the throat two or three weeks, whether they would be virulent if they came in contact with another throat, and how virulent they really are.

DR. RAVENEL: Some of them are virulent and some not. We get every variety by the test on guinea pigs. We have no method except guinea pig inoculation of telling how much virulence the germ has. But that does not show anything as to the virulence of the culture for a human being, for instance, we have those cases of membranous rhinitis which may produce a fatal diphtheria in human beings, and yet they will not injure the guinea pigs.

DR. W. F. LORENZ, Mendota (Closing:): I would like to point out the fact that complications in the nature of large hypertrophied spongy tonsils, will in all probability hinder good results with this or any other

treatment, and that if it is used in such cases and the results are not good, it should not be attributed to failure on the part of the staphylococcus spray, but rather a failure in getting the spray to where the diphtheria bacilli are, and in that instance it is shown that massage is valuable; and they even go to the extent of probing the openings in the tonsil and thus freeing the diphtheria bacilli.

I would also like to comment again upon the extreme simplicity of the method. The cultures were supplied to me and I simply had to add a little saline solution and shake them up until they were in suspension, and put in an ordinary atomizer, and spray the nose and throat.

SOME OBSERVATIONS DURING EIGHTEEN YEARS EXPERIENCE WITH DRUG AND LIQUOR HABITUES.*

BY ARTHUR M. ROGERS M. D.,
OCONOMOWOC.

What can we do for the man who persists in drinking to excess? What do you think of the Keeley cure? What is your treatment for morphine addiction? Can you cure such cases? Questions of this character are so frequently asked of me by medical men that I thought it might be profitable to present for your consideration this evening a brief resume of this subject.

It seems to me that the great degree of confusion concerning this matter, which exists in the minds of most laymen and many physicians, arises from the fact that no rational and consistent effort has been made to dissociate tendencies toward drug and alcoholic excesses from criminal proclivities i. e., nearly all criminals are given to excesses but it does not follow that an addict necessarily has criminal tendencies. On the contrary the addict is usually a sick man. It is as necessary to bring to bear the same analytical consideration of this class of individuals as we would of any other physical or mental ailment. Until we can discriminate between sickness and criminality, we are unable to comprehend the subject at hand.

"The ancient Egyptians have left many proofs of their great advancement in civilization in various departments of life, and it is therefore not astonishing to find that they recognized the truth regarding inebriety, namely that it was a disease, and treated it as such, using such remedial measures as lay to their hands. Among these were

purgatives, rubbings or applications to the head and spine. Herodotus wrote five centuries before the birth of Christ that "drunkenness showed that both body and soul were sick." Diodorus and Plutarch assert "that drink madness is an affection of the body which hath destroyed many kings and noble people." Many of the Greek philosophers recognized the physical character of inebriety and the hereditary influence which was transmitted to the next generation. Greek laws were enacted forbidding women to use wine and restricting young boys. Frequent reference is made to the madness which sought solace in wine and spirits, and those so afflicted are called upon and urged to give more diligent care to their bodies,—a distinct hint of the physical origin of inebriety."

During the Christian era we find many philosophers and physicians referring to inebriety as a disease and suggesting laws and remedies for its regulation, treatment and cure.

"In 1747 Condillac, a French philosopher, wrote clearly on the subject, asserting inebriety, to be a disease, and urging proper provision for its treatment. He stated that the impulse to drink was like insanity, an affection of the brain which could not be reached by law or religion. Fifty years later Dr. Rush, of Philadelphia, asserted the same truth, and supported it by a long line of reasoning. In two essays entitled: "The Influences of Physical Causes upon Moral Faculties," and "An Inquiry into the Effects of Ardent Spirits Upon the Human Mind and Body, he described the disease of inebriety, dividing it into acute and chronic forms, giving many causes, among which heredity was prominent. He urged the necessity of treatment in hospitals for the purpose. To Dr. Rush belongs the honor of giving the first clear statement of how the disease should be treated."

The present idea of inebriety is interesting in view of what has been written upon the subject, but is one not altogether creditable to us as a profession. In spite of the recorded beliefs of the ancient Egyptians, Greeks and Romans, and the spasmodic recognition here and there throughout the long centuries of the true nature of inebriety, it is only within comparatively the last few years that English physicians have adopted the view of inebriety being a disease. This is the more astonishing when one considers the multitude of cases open to study, and the fact that every physician

*Read before the Milwaukee Medical Society, April 22, 1913.

of even moderate practice must have met with numerous cases. I think I may venture to state that there is still a deplorable number of physicians in this country who stoutly refuse to believe inebriety to be a disease, and as firmly refuse to credit its curability. If this is so, and I base the statement upon the beliefs expressed to myself by many medical men during the last eighteen years, one cannot wonder at the views of the laity.

Civilization has produced along with other things, a greater variety of alluring alcoholic beverages and mixtures and the greater refinement of our pharmaceutical preparations has introduced us to new and more dangerous habit forming drugs. The result has been an enormous increase throughout the world of inebriety of all types. We here use the term "inebriety" not as defined in the dictionary, but in its broader sense as applying to excesses in alcoholic preparations, ethers, drugs, etc.

It is our intention in treating this subject to consider only two phases—Etiology and Therapeutics. I scarcely need remind reading men of the influences of heredity upon inebriety. The evidence is so overwhelming in support of such a view that any one attempting opposition to this theory would have a very difficult, if not impossible task. "The legislation of Lycurgus promoted drunkenness in vanquished nations in order to destroy patriotism. The Carthaginian law prohibited any drink but water on the day of cohabitation with one's wife." We are all familiar with the inter-relationship between alcoholism, neurasthenia, hysteria, chorea, insanity, imbecility, epilepsy or simple nervousness. One or all of these may be present in the offspring of drinking parents. A French physician who has made an exhaustive study of this subject, remarks that "the inheritor of this taint, as well as the drinker himself, can hand down not only his own vice, but a special morbid tendency, a particularly neuropathic state, which can always be charged to inebriety."

Early in my experience with these cases, my attention was arrested by the wonderful similarity in their histories, the sameness in the temperaments and the uniformity in habits, tastes, manners, etc. I gradually came to consider this "make-up" as practically identical with the neuropathic state. These individuals all possess an underlying nervous and mental instability—a something that fails them in times of stress, worry

and storm. It is during these crises that the inherent craving for stimulation or something to "tide them over" manifests itself. Unfamiliar with their condition, they feel secure in using alcohol or drugs to assist them over the rough spots and think that then they will stop their use. They find they cannot do this; they possess the inherent craving and it is right here that the habitue and other individuals differ. The unfortunate possessors of this "make up" are strongly alike in the ways they manifest their characteristic craving for stimulation or sedation. They are practically all heavy users of tobacco, mostly cigarettes, and inhalers, and all consume great quantities of coffee, tea, red meats, mustard, peppers and other condiments and highly seasoned foods. These individuals apparently do not relish food unless so highly seasoned that it would almost scorch the mouth of an ordinary person. During my student days I had a friend who ate one to two pounds of beef daily and always covered it with red pepper or some equally hot condiment. He was always smoking and seemed unable to do anything moderately. Later while serving his internship he had a nervous collapse, took to morphine and cocaine and eventually shot himself. Again during my early sanitarium experience, an associate toyed with cocaine to check a nasal catarrh and this led to his final incarceration in a hospital for the insane. Both of these young men had fathers who were excessive users of alcoholic liquors, ultimately dying from its effects.

The indictment is often brought against our profession that we are frequently responsible for the origin of many "dope fiends." I regret to say that I know this to be entirely too true. Opium and its derivatives are distinctly anodynes and I do not believe that any physician is warranted in resorting to their use until every other possible remedial agent has been exhausted. No doubt the exhibition of morphine in certain crises is practically life saving, but there is no excuse for its use in migraine, the nervous recurring aches and pains of neurotic origin, dysmenorrhoea, climacteric manifestations and functional insomnia. The very character of these ailments alone should warn one of the dangers in using a habit forming drug.

Certain cases of traumatic neuroses and psychoses develop tendencies toward alcoholic excesses. One can scarcely attribute to the trauma, as is often done, this tendency to excess, but rather to

the underlying neurotic taint brought to the surface by the injury. Again the statement is made that certain diseases, such as indigestion, pathological cardiac conditions, syphilis and neurasthenia are at times responsible for the production of an habitue. Mental distress, physical pain and disease undoubtedly may act as contributing agencies, but before we can have a true addict, we must first have a craving, which is usually inherited and inherent. I have heard of opposition to the use of fermented liquors at the Lord's Supper. How can a mouthful of wine produce an inebriate, unless there previously existed a profound underlying tendency to drink?

Every user of alcoholic liquors is not a sick man, requiring treatment. Intelligent advice and supervision concerning these cases has been greatly blocked and interfered with because of the tendency to consider them all alike and therefore to be treated alike. The first step in the rational treatment of all cases of inebriety is a proper classification, and even then each patient must be considered individually. I believe that all those who drink can be placed under one of several heads:—

- 1—The constant drinker.
- 2—The periodical drinker.
- 3—The dipsomania.
- 4—The voluntary drinker.
- 5—Mixed cases.

Permit me briefly to define each of these classes. The voluntary drinkers are really not medical cases. In the beginning it is not the physical but the moral side of them that is at fault. The distinguishing point about them is that they have no physical craving for alcohol and drink from mere caprice. Their continued bouts are prone to undermine their physical and mental natures and thus ultimately produce a medical condition. Removing such individuals to an environment quite beyond the temptation to drink and restoring their physical health and resistance by proper food, baths, exercise and mental direction will usually do all that is necessary for them.

The dipsomania is insane and usually dangerously so. Their sudden maniacal outbursts under the influence of liquor may take unexpected suicidal or homicidal tendencies and they always require the closest supervision and the restraint usually required by other maniacal conditions. During the interval between the attacks, close observation will detect marked peculiarities of character, but which are not sufficient to differentiate them from other

individuals who are not considered insane. Their treatment is usually a temporizing one and usually quite unsatisfactory. The constant drinker is in bondage. Upon waking each morning he must have a drink before he can dress and throughout the day and year as soon as the effects of one drink pass he takes another. Enforced abstinence in these individuals makes them miserable. They tell you there is a feeling of something wanting, which they find difficult to fill. This is an actual hunger of the cells calling for the narcotic, which they have had supplied to them so regularly and for so long that they have ceased to provide for themselves and now depend upon this constant supply. This craving is an expression of the sensory nerve cells.

The periodical inebriate differs from the former in but one essential—the entire absence of any noticeable craving between the attacks. In some cases an actual abhorrence for liquor is manifested after the attack is over. -

With the possible exception of the sexual hypochondriac, I know of no class of people who have been so victimized by the quack as the inebriate. Failing to receive help from the medical profession, he has tried the Keeley cure, the farm treatment, restraint, the correspondence cure, the three day faree and finally been locked up in some hospital for the insane only to be turned loose as soon as sober.

The first essential in the treatment of alcoholism is removal to an environment where absolute supervision of the patient can be maintained. Most of these patients are amenable to moral direction and mental suggestion. Elimination must be stimulated by baths and massage, cathartics and exercise. Most such patients suffer from increased blood pressure and albuminuria and both of these conditions are relieved by those agencies assisting elimination along with regulation of diet, restriction of meats and discontinuance of all highly stimulating foods. There has been much controversy as to the advisability of the immediate withdrawal of all liquor. There is but one rule for this and that is the individual patient. It is desirable to discontinue the cause of the trouble as speedily as possible, abruptly if the conditions warrant such a procedure. Surely nothing is gained by precipitating an acute hallucinosis or delirium as sometimes results from the abrupt method.

Can the craving be relieved? How can it be accomplished? I belong to those who believe or know that it can be. I have treated patients who had

been consuming two quarts of whiskey daily for two to four weeks and developed in them an actual abhorrence for liquor in a week. I have been accustomed to use by mouth a preparation containing gentian, cinchona, capsicum, strychnine, and atropine. Three times a day a hypodermic of strychnine nitrate and atropine is given. The dose of each is increased gradually for two weeks and then gradually withdrawn during the next two weeks. Such a treatment usually requires four to six weeks time and invariably produces intolerance for alcohol. I do not claim that none of these cases relapse, but I am in a position to state that a goodly percentage of them are returned to a life of permanent usefulness. Such an individual should never afterwards toy with alcoholic liquors, but be given to understand that he must steadfastly leave them alone. In treating other forms of inebriety, such as those due to opium, morphine, heroin, laudanum, paregoric, cocaine, ether or chloroform, I am accustomed to pursue the same course as outlined above with certain modifications to suit each form and the individual patient. I have never known a morphine or cocaine user to be cured without the closest personal supervision. Many of these patients exhibit a combined inebriety, such as alcoholism with morphine or cocaine. Here the treatment is necessarily longer. One great fallacy, particularly in morphine addiction, is the belief that the individual is well as soon as the drug is discontinued. I am certain that this accounts for so many relapses. The long continued use of morphine or cocaine produces such changes in the economy as to require weeks of readjustment before the patient can with safety be returned to his former pursuits and environment.

The foregoing is presented somewhat in the nature of a plea for the individual who is born with a thirst, or who through some unfortunate circumstance has developed one. I believe that the majority of these people are sick and demand the earnest consideration of our profession and that our duty to them is well defined.

A REPORT OF TWO UNUSUAL SURGICAL CASES.

BY A. H. LEVINGS, M. D.,
MILWAUKEE.

A CASE OF PERITONITIS CAUSED BY AN UNRUPTURED AND NON-GANGRENOUS APPENDIX.

History. Arthur K—, age 21, had pneumonia one year ago. March 18, 1913, was taken sick with

severe pain in the right abdomen, vomited, abdominal muscles rigid, temperature 100°. Diagnosis, Appendicitis.

He was sent to the hospital the same evening and operated on the next morning. At the time of the operation, the entire abdomen was tense, especially in the right iliac region and much distended.

On opening the abdomen, a yellowish fluid immediately made its appearance and about four ounces ran out of the pelvis. This fluid was examined microscopically and found to contain a quantity of pus cells, but no smears were made.

The appendix was brought into the wound and to our surprise was not especially abnormal in appearance, in color pale but it seemed stiff and somewhat swollen. It had not ruptured nor was it gangrenous. It was removed but although apparently affected, it was not at that time thought to be the cause of the illness. The gall bladder and stomach were examined and found normal and pretty much the entire course of the large and small intestines were also examined. Nothing additional was found to account for the fluid in the abdomen. The intestines were markedly distended as though there might be an obstruction but none was found. A drainage tube was placed in the pelvis and the abdomen partially closed, though with some difficulty on account of the intestinal distention. Following the operation there was severe infection of the wound and fever which continued for two weeks, some sloughing of tissue and several hemorrhages. Aside from this the patient made a slow but satisfactory recovery without anything further being done.

I occasionally have patients with pain in the lower right side, muscular tension and slight fever and on operation remove a perfectly normal looking appendix, but in two or three days the fever disappears and the patients recover completely. In another class much more numerous, I find a gangrenous appendix, which is not ruptured, a quantity of infected fluid in the abdomen and commencing general peritonitis.

In the former cases there is an infection of the appendix, which is not severe and which causes mild local and constitutional symptoms. While in the latter class there is an intense infection traveling through the walls of the appendix and causing gangrene. This condition is also often associated with thrombosis of the appendicular veins. But

in my experience it is unique to find an appendix normal in color and only slightly swollen and stiff causing a commencing general peritonitis.

A CASE OF ABDOMINAL PREGNANCY OPERATED UPON
TEN MONTHS AFTER CONCEPTION. RECOVERY.

History:—Mrs. P—, age 37, four children, ages, 15, 12, 10 and 7 years. Menstruated, May 26, 1912. For three days, flow normal. June 29th, she was taken suddenly ill with severe abdominal pain, vomited and was greatly prostrated. Abdomen was tender and tense. Patient said that she was twice the size of a snare drum and in bed a week. She was then somewhat better and got up for a day. She was again taken with abdominal pain, vomited and went into a state of collapse. Following this she was confined to her bed for six weeks and the abdomen was very tender and much swollen, she also had chills and fever. After six weeks she commenced to sit up.

The doctor in attendance told the patient the first week in August that she was pregnant and on August 16th, she was seen by another physician, who also pronounced her pregnant. She stated that with this pregnancy, she was quite different from what she had been with her other pregnancies. The breasts were not large but there was milk in both. Patient said that she felt life or what she thought was life at four and one-half months. Since the last of February, 1913, she had not felt life. Since she recovered from her acute sickness, she had had no chills or fever.

About the first part of April, she came under the care of Dr. Hubert Jermain. It was then thought that the pregnancy should have terminated three or four weeks previously, and the doctor sent her to St. Joseph's Hospital, thinking to have her confined there. As no pains came on, he explored the uterus and found it empty. He then made a diagnosis of abdominal pregnancy.

On April 10, I was asked to see the patient and operate, which I did. I made no vaginal examination as the doctor assured me the uterus was empty. On palpating the abdomen, the child could be very distinctly felt in a sac which was reasonably tense. On opening the abdomen in the median line with an incision that extended from the umbilicus to the pubis a grayish, tense, dark-colored sac was seen covered by adherent omentum. This was double ligated and divided. I then came upon coil after coil of small intestine, which in places seemed to

be almost a part of the sac. In separating two of these coils, I tore through the peritoneal and muscular coat of the bowel. These tears were repaired with catgut stitches. Then great sheets of peritoneum were seen to come from the lateral walls of the abdomen and become fused with the sac. These were clamped off, divided and then ligated. In this manner by separating omentum, intestinal coils and great sheets of peritoneum, we were able to free the sac, and after enlarging the wound to lift it out of the abdomen. It was then seen to be attached to the fundus of the uterus, the uterus not being materially enlarged. The right tube and ovary were free. The left tube was embedded in a mass of adhesions. The fundus of the uterus was amputated and the mass lifted out of the abdomen without opening the sac. The uterus was treated as in case of pan-hysterectomy. The abdominal wound was closed down to a cigarette drain, which was placed in the pelvis and the patient put to bed in a fairly good condition. She made an uneventful recovery.

After removal the sac was opened and found to contain a male fetus, weighing six and one-half pounds, perfectly formed, but somewhat macerated as though dead three or four weeks. The placenta enclosed in the sac was attached to and received its main blood supply from the fundus of the uterus. The placenta was small and fibrous.

This case from the history is easily unraveled. The pregnancy was primarily tubal left side. The tube ruptured June 29th. A week later there was a second severe hemorrhage at which time the embryo was set free in the abdomen and finally attached itself to the top of the uterus. The sac was largely formed by great sheets of peritoneum which came off from the lateral abdominal walls.

WHAT YOU WEAR, NOT KNOWING IT.
AN ADDRESS TO NURSES.

BY HORACE MANCHESTER BROWN, M. D.,
MILWAUKEE.

I do not know how many of you read that choice one-eighth column of wisdom that appears each day in *The Milwaukee Sentinel*. Usually a picture of an impossible man with an impossible head, an impossible hat and whiskers, an impossible pair of trousers and boots, who masquerades under the name of "Abe Martin." Who Abe may be, or who is really responsible for him I do not know, but this I do know: every now and again

there appears in the printed matter under his picture a pearl of wisdom that is indeed of great price.

Occasionally sharp, with a cutting sarcasm, sometimes reminiscent of the wisdom of the dictionary of quotations, again offering an "old saw," or a rehashed proverb of "Poor Richard," Abe with persistent frequency says a grand, beautiful thing, and expresses a truth that has behind it, as most truths have, a world of that thing we call "the human." For instance a day or two ago he said "dame fashion has never yet succeeded in turning out anything as becoming as a trained nurse uniform."

Simple isn't it? But can't you see what it means? Can't you hear the buzz of the humming, swarming flies ramping through the putrid air of some poverty scorched tenement? Can't you feel the blow to the senses that comes as you enter its unventilated squalid rooms? Can you not picture to yourself the bedraggled, slatternly mother, discouraged by want, dismayed by ignorance, inefficient, jaded, without hope or ideals, fussing futilely about her ill-planned work; a wailing babe dragging at her breast, and perhaps an ill nourished child clinging to her skirt. No air, no hope, no sunshine, no practiced thought, no disciplined course of action; a mind obtunded by the very futility of its own effort—heat, dirt, stinks, fatigue, despair—and into this environment comes that thing that for a certainty "dame fashion has never yet succeeded in making," the trained nurse uniform; and with it come the things it symbolizes, system, discipline, hope, cheer, helpfulness.

The uniform means the coming into the picture of fresh air, soap and water; a practical use to a beneficent end, or all such facilities for cleanness as may be available, an actual application of knowledge acquired through years of bitter service, to the beautifying of the surroundings, and to change sordid squalor, to a confident hope for better things, and thus to a foundation for that systematized action on the part of the discouraged mother, that shall lead to betterment of conditions, to betterment of health, and necessarily to a greater self-respect and self-confidence.

Of course to us, nurses and physicians, the picture of the internal hospital life is so old a presentment of man and woman at their worst, of man and woman stripped of those garments of the mind and body that dame fashion has designed for con-

cealment of the human animal as he really is, that he need not make any effort of imagination to recall it, for we are daily and hourly "in the picture," but for you others who only know humanity as it, in its flattering imagination, thinks itself to be, it may be difficult to picture the pallid face of the torn and wounded man or woman, the cold blue lips, the clammy brow, the sunken eyes, and listless restlessness of those who in shock, tread the narrow path close to the border of "the great beyond," or the purposeless ravings of the bacillus ridden fever patient; the dull ox-eyed gaze of him who with septicemia looks out of half-seeing eyes upon a confused world of things of which he is but semi-conscious; or the young mother stepping with a great fear, and a great hope into that ordeal, the outcome of which may be a greater joy, or the death of one who has consciously lived and of one yet unborn.

But into these pictures, and into a thousand others, no two quite the same, comes in these days, not the costume that dame fashion in her uselessness has conceived, but that far more useful, far more beautiful one, "the trained nurse uniform." It bears with it no precious scent of costly perfume, no flashing sheen of jewels, no billowing fall of lace, no cunning design of combined priceless fabrics, but to those lying in pain, in sorrow, in despair, in the agony of childbirth, in the fear of the operating room, and the knife; it is far more beautiful than any of those things, for to them it is the symbol of helpfulness, hope, confidence, strength to endure, willingness to live, and upon these things the sick man builds the faith that works for cure, the confidence that helps for health.

Indeed: Dame fashion has never yet succeeded in turning out anything as becoming as a trained nurse uniform.

And now let us take another little journey together, and from this picture of squalor and unfitness, and from this house of science, sickness and pain, let us go into the "house of mirth" together. Into the house where abundance and luxury destroy desire, where repletion and wealth lead to mental torpidity, to idleness and its attendant self-examination, self-love, and egotism. To the house where too much prosperity leads to hysteria and the miseries that have accompanied satiety, where too much help has bred helplessness, and where too much satisfaction has destroyed content.

Picture then to yourself in this "house of mirth" where mirth so seldom comes, the nervous, pampered, satiated and hysterical woman; a psychic wreck, thoughtful only of her own desires, her own personal wishes, a burden to herself, and a burden to every one about her. Pettish, peevish, perverse, petulant; wanting anything and everything until she has it.

Can you not see her, lying there in the luxury of her beautiful apartment, dressed for the doctor? Properly posed upon her bed, arrayed in a silken wrapper, her hair marcelled and fussed into the latest form. Her fingers bejeweled and nails polished to perfection. A mass of lace rippling over her bosom, her feet bedecked with satin slippers, crossed upon each other, give to view the sheen of immaculate silk stockings, and her maid fussing about her, arranges this or that, but never to her desire. Nothing pleases, nothing is to her taste or to her satisfaction, for taste is jaded and satisfaction forgotten. The luxury can not bring health, nor money contentment, and into this picture as into the other enters the trained nurse uniform, and with it comes the quality of sufficiency, the atmosphere of certainty, assurance, and the possession of a firmly grounded capacity for the acceptance of responsibility, and an assurance of ability for bearing the burdens of others. A diplomacy, and a faculty for politic adjustment of things, and the ministrations of "a mild and healing sympathy" that is as a tower of strength to the nerve wrecked sybarite who is the patient, and she of the nervousness and discontent, consciously or unconsciously shifts her burden of discontent upon the shoulders that wear the uniform; and like a balm that heals all wounds, its influence supersedes all others, and peace, and contentment, and health assume their sway.

And there in the presence only of the costume of dame fashion and the costume of the trained nurse, the battle between that of the useless life and the one of far more beauty, of particular service, of gentle consideration, and patient helpfulness, is fought out, always with the victory for the latter. Indeed, dame fashion has never yet succeeded in turning out anything as becoming as a trained nurse uniform.

These things and a hundred other things; all of them good—the trained nurse costume stands for. See to it that you who are to wear it hold it as a sacred symbol. The symbol of service, of silence

when silence is golden, of hope, of helpfulness, of system and discipline, and so may the gods grant you prosperity.

THE EARLY DIAGNOSIS OF GASTRIC CARCINOMA BY AID OF ROENTGEN RAY.

BY W. F. HILGER, M. D.,
MILWAUKEE.

Gastric carcinoma as we understand it now, is a distinctly surgical affection, fairly possible of a cure. When the tumor is definitely palpable from without, the symptoms moderately advanced, the value of surgery becomes much in doubt and when the classical subjective and objective picture of malignant disease is established we can only hope to relieve the symptoms and secure better drainage by surgical operation.

It goes without saying the early diagnosis of gastric cancer can only be accomplished by very close study of the laboratory findings and symptomatic details of all cases of gastric diseases which do not accurately belong to benign affections.

One must be always on the alert for cancer during gastric examinations and one must have a courageous, willing, and intelligent patient to deal with.

We will not go into detail of examination for blood in the gastric contents, pus cells and bacteria, nor argue whether the HCl is increased at the beginning of cancer and then gradually diminishes or whether heredity has or has no bearing on the subject, but proceed to the discussion of the subject in hand.

Roentgen diagnosis of the stomach was advanced greatly by the photography of the Reinder's meal in 1904, the test for mobility by means of the double bismuth meal advocated by Haudeck, working in Eiselberg's clinic, with reports of a hundred operations on the stomach in which there was not a single case of serious error in the Roentgen diagnosis.

At the Surgical Congress of Berlin in 1911, Schmieden, referring to Bier's clinic, asserted that the factors of modern stomach diagnosis were: the history of the case, palpation, test for HCl, and Roentgen diagnosis, that laparotomy as a means of diagnosis of conditions in the stomach is altogether superseded.

How often have we seen the clinical symptoms totally contradicted by the Roentgen examination

and subsequent operation and the cause of obscure symptoms revealed.

Those who have seen the old diagnostic laparotomy replaced by a well-ordered operation, the symptomatic treatment changed by a surgical treatment of gastric ulcer, will realize how great is the debt we owe to Roentgen.

Von Bergmann at the last Medical Congress addressed the members thus: "You can hardly conceive the progress made from day to day in Roentgen diagnosis and especially in diagnosis of diseases of the stomach and bowels. Yet we hear physicians confess that they know nothing of Roentgen diagnosis."

In case of achylia or any other symptoms pointing to gastric carcinoma, a thorough Roentgen examination of the stomach should be made. After examination of the gastric contents, the absence of HCl being proven, we employ the double bismuth meal, administering the first part at seven A. M. At one P. M. patient reports at laboratory. With the fluoroscope we see at a glance that there is a residue of bismuth in the stomach and the head of the bismuth column is in the hepatic flexure. The second part of the Reinder's meal is now taken and a radiograph made. The shape, size, and position of the stomach are found normal. The radiographic diagnosis in this case is, small, operable carcinoma of the pylorus.

The bismuth residue six hours after shows stagnation, loss of tone and points to organic obstruction of the pylorus, ordinary atonic delay in gastric evacuation does not last six hours. In achylia due to hypermobility the stomach is empty in three hours.

Spasm of the pylorus could not cause the retention for in that case we have hyperacidity.

The radiological examination shows that the carcinoma is small and operable since otherwise there would be some defect in the shape or extent of the bismuth shadow. Diffused contracting or deep circumscribed scirrous cancer would also show loss of mobility, absence of HCl, but the bismuth shadow of the stomach would not be normal, we would be able to discern shrinkage and defective filling. You will notice therefore that by this method of examination we get a very correct idea not only of the nature and position but also of the extent of the disease. Haudek has observed a large number of cases with defective filling or defective stomach shadow, with absence of HCl, but

no residue left after six hours, the stomach shadow being horn shape, instead of the normal hook shape.

The radiographic diagnosis in this case, being inoperable gastric cancer, without stenosis, the clinical symptoms were only anorexia and some loss of weight.

The horn-shaped stomach can be due to one of two causes, hypertonicity or shrinkage. The first can be ruled out by the clinical findings. Shrinkage causing the horn-shaped stomach shadow even if the palpable tumor is small, we may be sure that there is some widespread cancerous infiltration which renders the total resection impossible.

If we find the same symptom complex, but the stomach shadow retains its ordinary physiological hook form we may consider the case operable, even when there is considerable defect in the stomach shadow.

Some cases present a large sickle-shaped stomach shadow six hours after meals, with marked defect in the filling of the pars pylorica, signs of dilatation and the previous history of ulcer, in such case a diagnosis of cancer on the base of an old ulcer with stenosis is made. It was not known until recently that advanced stenosis of the pylorus with dilatation and paralysis, might exist without vomiting or other symptoms. Vomiting may set in later not from stenosis but from carcinoma.

Cancer of the cardiac end shows no residue two to four hours after meal, the head of the bismuth column in the splenic flexure of the colon, shortening of the stomach with congestion of the cardia and absence of HCl.

An empty stomach three hours after meal with anacidity means hypermobility of the organ. Shortening indicates diffused contraction and consequently carcinoma. Contraction due to ulcer is on the greater curvature, opposite the ulcer, sharply defined, and not diffuse. Congestion of the cardia shows the aggressive tendency of the disease. Achylia is a contraindication for ulcer as well as cardiac stenosis. Such a case, of course, would be inoperable.

If any roentgenologist expects to diagnose a flat peptic ulcer by means of the Reinder's meal and radiograph alone, he will meet some disappointment.

Dr. Haudek, in the laboratory of the Allgemeine Krankenhaus, Vienna, made a number of experiments on dogs by excising portions of the mucosa

and submucosa of the gastric wall of the lesser curvature near the pylorus and in the pars media. A piece of lead was inserted to mark the location of the ulcer.

After three days the Reinder's meal was given, enough time elapsed for the complete evacuation of the stomach before the skiagraph was taken, but no collection of bismuth around the spot indicated by the lead was perceptible.

The radiological diagnosis of flat peptic ulcer is made thus: The presence of HCl being determined, the Reinder's meal is now given and after six hours by means of the fluoroscope or radiograph the absence of retention assured. The second part of the double Reinder's meal is radiographed and the stomach shadow found normal, the tender point in the epigastrium marked with lead. It will be found that on the skiagraph the lead shadow (indicating the tender point) corresponds with the lesser curvature of the stomach, where an ulcer is most likely situated.

By means of a fluoroscopic examination, the tender point can be noticed to move with the stomach by pressure or indrawing of the abdominal walls. (Jonas.) A displacement of the pylorus upward and a transverse contraction of the pars media will be noticed. In ulcer of the duodenum the tender point moves with that organ.

Penetrating ulcers of the stomach may frequently give rise to a special appearance, an outgrowth or diverticulum of the bismuth shadow, with an air bubble at the summit of an isolated patch, usually at the lesser curvature and in the pars media of the stomach. We also have immobility of the bismuth patch, which is not influenced by palpation or pressure.

These cases are not as uncommon as might be expected, since as many as thirty-eight have been reported in 1910 by Haudek alone. If we inquire why they have been hitherto overlooked, we must remember that previous to the introduction of the Reinder's meal, there was no means of recognizing their presence.

Even during an operation, it is not easy to recognize these ulcers unless the surgeon has some previous indication from a Roentgen examination. At first he sees only the adhesions of the stomach to the neighboring organs and feels a callous tumor, he finally becomes aware of the penetration, after breaking up the adhesions. It may

sometimes be still further complicated by pathological alteration of the pylorus or another ulcer higher up.

The diagnosis of penetrating ulcers is full of difficulty for the physician as well as the surgeon and that is why it received such scant notice in the early literature on the subject.

TECHNIQUE.

The fluoroscopic examination should precede the radiographic and act as a finder. After you have fully explored the stomach from every possible angle, you can radiograph the most interesting views.

It goes without saying that the work of radiographing must be done almost instantaneously while the patient holds his breath. You must be exact in your measurement for correct timing. For instance the distance of anode from plate being 18 in., thickness of object 7 in., penetration of the tube 10 in., M. A. of current passing through the tube 10, a plate armed with a reinforcing screen should be exposed 1 sec.

It is essential that the room in which the screen examination is made be absolutely dark. Fluoroscopic examination in a light room is absolutely useless. All light from valve tubes, etc., should be reduced to nil.

The observer must remain in absolute or semi-darkness for at least fifteen minutes before making a fluoroscopic examination. This is of utmost importance, and a satisfactory examination cannot be made if it is disregarded.

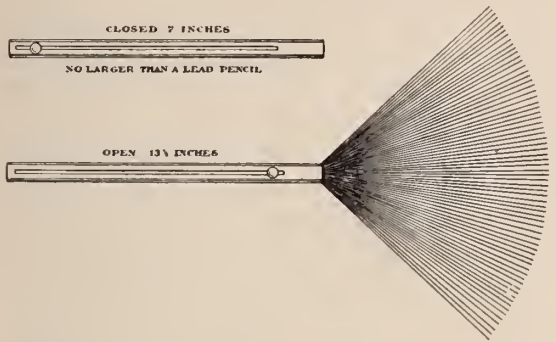
Beclere of Paris who has made a special study of this point says: "My own experiences have proven by precise measurement that after ten minutes in the dark the sensibility of the retina to the light of the fluorescent screen has become fifty to one hundred times greater than it was on emerging from broad daylight, it is about two hundred times greater after twenty minutes and after a longer time, it still increases."

A TELESCOPIC POCKET FLY "SWATTER."

The accompanying illustration gives a good idea of the ingenious invention of a Wisconsin man. It is a fly "swatter" which can be carried in the pocket when closed, and can be boiled without injury to the "swatter", so as to be suitable for use

in hospitals or sick rooms. In addition to these merits the inventor states that "it is an excellent ink eraser, a good crumb scraper, and a serviceable

member or members of the profession, of the principles which should animate an exalted and dignified profession.



pocket whisk broom." As the price is only ten cents each, one would seem to get a great deal for one's money.

TUBERCULOSIS COLUMN

CAMPAIGNING THE DOCTORS.

At a meeting of the Tuberculosis Commission of the State Medical Society held recently it was decided to launch a vigorous anti-tuberculosis campaign amongst the physicians of Wisconsin. Enough evidence was presented at this meeting to indicate that there is at the present time as great need for arousing the physicians as there is the general public—perhaps greater.

Enlightened laymen in a number of quarters complain that when the physicians show marked apathy regarding early diagnosis, registration of cases and proper enthusiasm for the establishment of sanatoria for advanced cases, it is exceedingly difficult to arouse enthusiasm amongst the "humbler citizens."

The Commission was unanimous in believing that an effort should be made by the organized profession to remove any stigma which may now correctly or incorrectly be attached to the practice of at least the representative and dominant portion of the profession.

In establishing this column in the official organ of the State Medical Society, it is the intention from time to time to comment upon the relationship of the physician to tuberculosis, with particular reference to the social aspect and responsibility. Short, direct communications are solicited and instances of violation, on the part of any

REGISTER TUBERCULOSIS.

There are many good reasons why tuberculosis should be reported—the weakest is that *it's required by law.*

Be Honest! "If physicians could hear themselves berated by patients for a want of honesty in not telling the patient frankly of the existence of the disease, there would be less of this mistaken kindness," said a tuberculosis nurse of the Milwaukee Health Department. "Some are so righteously indignant at having been robbed of their chance of treatment and possible cure, that it is almost impossible to restrain them."

MORE DEAD THAN SICK?

Every physician or other person in the state is bound by state statute to report to the Board of Health any case of tuberculosis of which he knows. Yet, in spite of this fact, only 1,205 cases of tuberculosis were reported in 1912. In the same year, 2,623 deaths occurred from tuberculosis. In other words, last year in Wisconsin there seemed to be two deaths from tuberculosis for every case of tuberculosis. That is, according to figures, there were 1,400 persons who died from consumption without having it. Ridiculous!

The truth is that neither physicians or other persons are obeying the law and reporting tuberculosis cases. The State Board of Health estimates that there are 12,500 cases of tuberculosis in Wisconsin today. Less than ten per cent of these cases were registered.

Public welfare demands that tuberculosis be reported, so that it can be known where consumptives are, in order that they may be taken care of, and the public protected.

The writer confesses to some sympathy with the physician who fails to report his cases of tuberculosis under the notion that the only reason that reports are desired is to satisfy the curiosity of the statistician. However, statistics are not alone for statisticians! Under the new order, there is a growing sentiment that our government and particularly our public relief and hospital agencies shall be run with some idea of efficiency. These data are assuming immediate importance. In the campaign for the establishment of county sanatoria it is im-

portant to have *evidence* to present to the county boards. The members are being trained to consider *facts* and not sentimental twaddle or political considerations alone. If not so inclined, they are forced by *facts* which are insistently presented to them on all sides.

The registered patient (whose identity is, by law, kept confidential) then becomes, by the fact of his registration, a force for the institution of those relief and curative agencies which he so much needs, and which, had they been instituted a generation earlier, might have forestalled his own infection.

In spite of the many agencies which for some years have been at work throughout the world, consumption and other forms of tuberculosis, continue to demand a toll of human life which is appalling. Conditions are growing better daily along some lines, largely through education of the masses. Philanthropic and governmental agencies have accomplished great things, but much remains to be done.

Our profession has done noble work and has led in the fight in most respects. Our deficiency in two things, however, is delaying progress.

(1) We fail to make early diagnoses.

(2) We fail to report our cases to the Board of Health.

These things are essential to success. Reporting of contagious diseases is the book-keeping of public health work.

Will you not help by sending in a report of your cases of consumption to the State Board of Health?

While it may be thought by some physicians that this reporting imposes a burden upon the physicians for which there is no reward, it must be remembered that our position in the community and the respect of the profession have their origin in a willingness to put the work ahead of the reward. It is to our interest to maintain and add to the prestige that has been handed down to us by our ancestors of the medical profession.

The program for the care and prevention of tuberculosis to which Milwaukee city and county are now committed will put this community in the very front rank, if not in the lead, of all American communities. The county of Milwaukee is the only Wisconsin county in which there is even an approach being made to registering the actual number of living cases of tuberculosis. This show-

ing is due, for the most part, to the efficient work of the Tuberculosis Division of the Milwaukee Health Department.

Notwithstanding the good start, however, of the 149 deaths reported from January 1st to April 1st, 1913, 33 had not been reported as living cases; 19 were not reported as living cases until within a week of death, 7 not until within two weeks of death.

In Cleveland, Ohio, months pass without the report of a single death from tuberculosis which had not previously been reported as a living case.

It is within the power of the medical profession of Milwaukee to put reporting upon at least as high a plane as characterizes any city in America.

BOOK REVIEWS

GONORRHEA IN WOMEN. Its Pathology, Symptomatology, Diagnosis, and Treatment: Together with a review of the rare varieties of the disease which occur in men, women and children. By Charles C. Norris, M. D., Instructor in Gynecology, at the University of Pennsylvania. Octavo of 521 pages, illustrated. Cloth, \$6.00 net; half morocco, \$7.50 net. W. B. Saunders Company, Philadelphia, London, 1913.

This volume is replete with practical knowledge and methods relative to gonorrhoea and is valuable to the physician, surgeon, specialist, sociologist and legislator.

First the complete historical sketch is instructive and comprehensive and includes descriptions of the earliest records of the disease.

The chapter on Bacteriology describes clearly the best and most approved methods of staining and culture; while chapters on Pathology and Pathogenesis present the particular changes wrought by the gonococcus in the pelvic organs and other body tissues, which is elaborately illustrated from microscopical and gross sections made by the author.

In the chapters on Sociology, Prostitution and Prophylaxis are found many practical suggestions which are of interest not only to the medical profession, but of extreme value to the legislator and sociologist. The civic side is given ample and exhaustive consideration including the modern methods employed by the governments of Europe and the far East for the suppression and limitation of this social evil and also a review of the situation as it is at present in the United States. The relationship of gonorrhoea to sterility and abortion and the destruction of the eye sight of the new born as a result of the maternal infection receives the prominent and thorough consideration, which is of all importance to the general and special medical practitioner. Stress is laid upon the necessity of obligatory certificates of health before marriage and necessity of placing gonorrhoea on the list of contagious and notifiable diseases, and many other practical and prophyl-

lactic methods of preventing the spread of the disease are presented.

A separate chapter is devoted to a full description of the approved methods of examination and of the means for ascertaining with certainty the presence of the gonococcus. Pathologic changes due to this infection are then traced in topographic sequence from the external genitalia to the ovaries and tubes.

Chapters on operative and medical treatments include an exhaustive consideration of the serum and vaccine therapies, while a chapter is devoted to Diffuse Gonorrhoeal Peritonitis, a condition little understood at the present time on account of its infrequent appearance.

An important chapter is that dealing with Gonorrhoea During Pregnancy, Parturition and the Puerperium. The physician is required to be eternally on guard to prevent the spread of the disease in the mother and to protect the new born child from ophthalmia neonatorum. Then follows the general systemic infections considered in detail, and well illustrated by cases and plates and presents a field of comprehensive knowledge in such a compact and complete form that it will be found a ready reference.

This broad and comprehensive presentation of gonorrhoea in women has placed in our hands a most instructive and practical book in which the literature is so well digested that it furnishes a practical and up-to-date encyclopedic review of a complicated subject.

SURGERY AND DISEASES OF THE MOUTH AND JAWS. By Vilray Papin Blair, A. M., M. D., Professor of Oral Surgery in the Washington University Dental School, and Associate in Surgery in the Washington University Medical School. 603 pages, with 384 illustrations. C. V. Mosby Company, St. Louis, 1912. Price, \$5.00.

In this handsome volume the author has attempted to fill the gap caused by the "lack of reciprocity of ideas and observations between constructive workers in the medical, with those of the dental professions."

For the benefit of dental students certain chapters on surgical pathology and surgical principles have been included. The preliminary chapters, together with that on the physical examination and the anatomical considerations are commendably brief and yet comprehensive.

As hemorrhage and shock are often serious matters in mouth operations a chapter is devoted to their management. Fractures and dislocations of the jaws receive detailed consideration with abundance of excellent drawings and X-ray photographs to illustrate the important features.

In the discussion of congenital clefts of the palate and lip the advantages of the early operation are clearly set forth. The Brophy operation and the Lane operation are described in detail with a goodly number of illustrations to make clear the technic, but while the objections to both these operations are mentioned they are hardly given the emphasis they deserve.

The chapters on congenital palate clefts and congenital

ital clefts of the lip and alveolar process are clear and well illustrated with diagrams. Our chief regret is that there are not more illustrations of the final results as these are the best criteria of the value of the different procedures mentioned.

The chapter on speech training is brief but suggestive.

The chapters on the treatment of deformities and malrelations of the jaws are interesting and well illustrated, while those on infections and inflammations of the mouth, the teeth, and the peri-dental tissues with their treatment, are comprehensive and definite in their teaching. Tumors of the mouth and jaw-bones and their operative treatment receive thorough attention and the diseases of the lips, salivary glands, tongue, and pharynx are covered with satisfactory thoroughness.

The chapter on tic douloureux is particularly interesting and the illustrations here are numerous and to the point.

Throughout the entire work the illustrations are numerous and carefully chosen.

A useful and unusual feature is a bibliography at the end divided into chapters corresponding with those of the book itself to facilitate the following up of any special section of the subject.

NERVOUS AND MENTAL DISEASES. For Students and Practitioners. By Charles S. Poits, M. D., Professor of Neurology in the Medico-Chirurgical College of Philadelphia. New (third) edition, enlarged and thoroughly revised. In one 12mo volume of 610 pages, with 141 engravings and 6 full-page plates. Price, cloth, \$2.75 net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

This work presents within the limits of one volume of moderate size a safe and convenient guide for the student and general practitioner to the difficult fields of nervous and mental diseases. It is a conservative work and one can find his way through the index and thence through the entire book, even though he may not be familiar with the latest up-to-the-minute classification of mental diseases. And yet the manual is far from being behind the times; the author has taken advantage of this new edition to bring it thoroughly up to date: the chapter on general symptomatology and methods of examination has been amplified. A description of tic embodying the present-day view of that disorder, and short descriptions of myotonia atrophica, progressive lenticular degeneration and dysbasia lordotica deformans have been added. The importance of the examination of the cerebrospinal fluid and determination of the existence of the Wassermann reaction in the diagnosis of certain diseases of the nervous system has been realized and the latest views incorporated. It is extremely well illustrated; and a better book for the purposes of the general practitioner or for the college student would be hard to find.

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EDITORIALS

THE OCTOBER MEETING.

The time for the next meeting of the State Medical Society at Milwaukee is rapidly approaching. When these words reach your eyes it will be scarcely two months away, as the dates are Wednesday, Thursday and Friday, October 1, 2 and 3. The program is nearly completed and we hope to give the preliminary outline of it in the next issue of the Journal.

If there are any who wish to present papers and who have not yet applied for a place on the program they should do so at once or it will be too late.

The Annual Address in Medicine will be delivered by Dr. C. F. Hoover of Cleveland, Professor of Medicine in Western Reserve University and Physician to Lakeside Hospital, Cleveland.

Dr. J. M. Hitzrot of New York, Associate in Surgery in the Cornell University Medical School and Attending Surgeon to the New York Hospital, will deliver the Annual Address in Surgery.

Both of these men have been "doing things" and both will be well worth hearing.

It is planned to give a series of clinics at a number of the hospitals in Milwaukee during the early part of the week of the meeting, but the details of this feature and of the social gatherings will be given in full in the next issue of the Journal. The important point is to plan to come early, on Sunday or early on Monday, and stay all through the week.

TUBERCULOSIS AND OUR TUBERCULOSIS COLUMN.

Tuberculosis is always with us and it should be always in our minds when we are engaged in the practice of medicine. But is it? Are we not caught napping too frequently? Are we doing the best we can for our patients? Are we keeping ourselves alive to the progress that is being made in the direction of early diagnosis or of effective treatment or of efficient prophylaxis?

These are questions of such importance to the medical profession and to the public generally that it is planned to make a Tuberculosis Column a regular feature of the Journal in the future. It begins this month and you will find contained in it a number of points worthy of careful consideration.

These are not questions which have to do with our brother practitioners in the neighboring town or county; they are questions which have to do with ourselves, and our own patients, and our own duties and responsibilities.

DIPHTHERIA CARRIERS AND THEIR CURE.

The interesting article by Lorenz and Ravenel on The Treatment of Diphtheria-Carriers by Overriding with Staphylococcus Aureus which appears in this number of the Journal offers a suggestion which has proved helpful in a considerable number of instances in shortening the length of quarantine after diphtheria and in limiting the spread of this

disease by clearing up the throats of those who had become chronic diphtheria carriers.

Schiötz, the originator of the idea, is a Danish physician who, in 1909, reported the observation that during an epidemic of diphtheria a patient with a staphylococcus throat infection who had by mistake been placed in a diphtheria ward did not contract diphtheria. He also observed that in a number of diphtheria convalescents in whose throats the bacilli were present, intercurrent attacks of sore throat caused a disappearance of the Klebs-Loeffler bacilli. Acting upon these observations, he inoculated six cases of diphtheria by spraying the throats with a staphylococcus aureus culture obtained from a patient who had a pure staphylococcus sore throat. In all these cases after two days cultures from the throat became negative, though in two of the cases they had been positive for two months.

Following this came the report of Page who concludes "that as treatment of carriers has proven useless, local measures and antitoxin having no effect, and as pure cultures of staphylococcus pyogenes aureus sprayed into the throat destroy the Klebs-Loeffler bacilli in from 48 to 72 hours, the treatment being harmless and effectual should be used in all carriers."

The staphylococcus pyogenes aureus cultures in bouillon can be prepared in twenty-four hours and can be procured at any bacteriological laboratory without difficulty. A fresh, live culture should be prepared daily and usually it is sprayed into the throat and nares every three hours.

While the extremely optimistic view of Page that throats could be cleared in two or three days has not been sustained by the later reports, still these agree that the method of Schiötz is the most satisfactory one known at the present time for dealing with this troublesome condition, and the slowness with which a clearing up occurs in some cases is probably due, as Lorenz and Ravenel suggest, to a deep infection of the crypts of the tonsil, in which the Klebs-Loeffler bacilli are protected by plugs of mucus.

THE ATTACKS ON THE AMERICAN MEDICAL ASSOCIATION AND ON THE EDITOR OF ITS JOURNAL.

Josh Billings once said, "It ain't so much ignorance that hurts people as it is knowing a lot of things that ain't so." We were reminded of the

truth of this profound saying when we found it our unpleasant duty to read the last five or six numbers of Jim Jam Jems, a monthly publication, issued at Bismarck, North Dakota, which has been making a very bitter attack upon the administration of the American Medical Association and especially upon the editor of its journal.

Before reading these articles the following item in the telegraphic news had caught our eye:

JIM JAM JEMS PUBLISHER AND WRITER GET 4 YEARS EACH.

BISMARCK, N. D., June 27.— Judge Willard, who in federal court here on Thursday sentenced Samuel H. Clark and Clarence H. Crockard, editors and publishers of Jim Jam Jems, a monthly magazine, to two years each in the penitentiary at Leavenworth, Kas., called the prisoners before him again on Friday and added two years more to the term of each.

The additional sentence was given on a second count on which the judge on Thursday had neglected to fix sentence.

The men, who were also fined \$2,000 each, were charged with sending obscene matter by express in violation of the interstate commerce law.

After reading the articles we are of the opinion that Judge Willard is the best friend these two young men have ever had and that if they use this period of enforced quietude for a little sober reflection they may emerge from the penitentiary with a clearer vision of what constitutes usefulness to humanity, and with a greater realization of the responsibilities of life than they now possess.

The articles to which we have referred are of a most mischievous nature and yet the impression we have received from them of their author is not that of a wholly bad or willfully dishonest man. It is rather that of a big, blustering, blundering, determined boy, sentimental, voluble, obscene, ill-balanced, credulous, superficial, vain. In other words, a boy, who has not yet grown up, but who may develop into something or nothing. The future alone can tell which it will be.

The charges made in these articles may be summarized as follows: It is charged that the American Medical Association is a trust which dictates to and controls the medical world of America; that the A. M. A. is attempting to force national legislation that will recognize but one school of medicine—"Allopathy"; that the Owen bill just referred to "is a most daring attempt of a monopoly-seeking class to control the practice of medicine under governmental protection and aid, and if successful will deprive the people of their right to

employ practitioners of their choice"; that the policy of the A. M. A. is "dictated by an unprincipled scalawag and a small coterie of henchmen of decidedly questionable character and reputation".

In addition there are the charges directed against Dr. Simmons personally; that "several years ago, Simmons was an advertising 'quack' Homeopath down in Nebraska"; that his domestic affairs were unhappy; that the advertising pages of the Journal of the A. M. A. were improperly used to prevent the publication of the reports of his domestic difficulties; that he is a dictator and an "unprincipled scalawag" generally, and ought to be deposed.

The editor of Jim Jam Jems offers a thousand dollars reward to any individual who will show that he ever received a penny from any patent-medicine or drug manufacturer or any individual to aid him in his investigation of the American Medical Association. But whether he is paid for it or not he is certainly speaking the language of the League for Medical Freedom and fighting their fight. Those who are familiar with their literature will recognize these charges against the A. M. A. as old familiar friends. The whole thing is the same old tissue of falsehood and misrepresentation.

Every physician knows that the A. M. A. has been and is striving earnestly to raise the standards of medical education and medical practice, but he also knows that there is no more trust about it than there is a public school trust or a college trust.

Every physician who knows anything about the Owen bill knows that it is not an attempt to secure governmental recognition of one school of medicine or to deprive the people in any way of their right to employ the practitioners of their choice. It is an honest attempt to conserve the health of the nation, its greatest asset, and the opposition to this bill is an artificial opposition created and nourished by some of the most sinister forces in our modern civilization. And when there was discovered at the Minneapolis meeting a disposition on the part of certain members to use the machinery of the Association for the promotion of personal ambitions in this connection, the rebuke administered was so severe that it will never be forgotten.

As to the charge that the policy of the A. M. A. is "dictated by an unprincipled scalawag and a

small coterie of henchmen of decidedly questionable character and reputation" it seems to us that the policy in itself is a sufficient answer. If earnest work devoted to the uplifting and purifying and benefitting of the entire medical profession of America is the mark by which an "unprincipled scalawag" can be recognized, you have it here.

Every large organization must have an executive committee to conduct its affairs; that of the A. M. A. is called the Board of Trustees. These, we presume, constitute the "small coterie of henchmen of decidedly questionable character and reputation". We happen to have one in our midst. Will Dr. W. T. Sarles of Sparta please rise for inspection. Does he look like a "henchman of decidedly questionable character and reputation"? Not to us!

As to the charges against Dr. Simmons there is little need to speak.

That Dr. Simmons was graduated from the Hahnemann Medical College of Chicago in 1882 is no secret. It is plainly stated in the Medical Directory. That he started in the practice of medicine with the education, the inspiration, and the ideals of a homeopathic medical school of over thirty years ago creates in our mind no alarm at his present official power and position, but only admiration and respect that a man with such an unpromising training could develop the high qualities of leadership which he has since shown.

In Wisconsin we did not hesitate to elect to the highest office in the State Medical Society a man who began his career as little more than an itinerant quack. We honored him for what he had become, not for what he was in the beginning.

As to the alleged affidavit of Margaret E. Simmons, a self-confessed morphine habitué of years standing, let us quote from the recent letter of the Board of Trustees of the A. M. A.: "It is unnecessary to more than mention to medical men the unstable condition of the confirmed morphine habitué, the total lack of all moral sense and of truth and the failure to appreciate one's own mental obliquity, and the extent to which a poor torture-racked victim will go in order to secure the all-essential drug."

In connection with the charge that the advertising pages of the Journal of the A. M. A. were used to prevent the publication of personal details about Dr. Simmons the following letters may be of interest:

LA CROSSE, WIS., June 26, 1913.

Dr. W. T. Sarles,
Sparta, Wis.

Dear Dr. Sarles:—

I got your circular to-day coming from the council of the A. M. A. in regard to Dr. Simmons. I think Jim Jam Jens started up considerable unrest in the Association.

I don't mean created it because I think there has been considerable for a long time, with, I think, very slight justification.

Personally, and I think a good many of the men in Wisconsin feel just the same, there is one matter to be cleared up regarding the Journal, and its contents. It is this:

The Abbott people have been shut out from the Journal for a long time. Then they were readmitted. And the story goes that they were readmitted thus:

Abbott brought to the authorities conducting the Journal all this stuff that has been accumulated against Simmons, and about which I, and I think any other sane person thinks very little, and said that unless he was admitted again to the advertising pages of the Journal that he would take the whole dirty matter up and thrash it out again, and with this threat against Simmons, he, or those acting for him, admitted Abbott to the Journal's advertising pages again.

If this be true, I think it is a very serious matter and I think it is about the only thing that any of those showing any unrest in Wisconsin (and I cannot speak for outside of Wisconsin) care anything about.

What truth is there in this story of the readmission of Abbott to the Journal's advertising pages under such threat?

Yours very sincerely,

E. EVANS.

Sparta, Wis., June 30th, 1913.

Dr. E. Evans,

La Crosse, Wisconsin.

Dear Doctor Evans:—

The statements which are being circulated about the Abbott matter in the Journal are of the same source and nature as the other statements regarding Dr. Simmons and are without any foundation whatever.

A few years ago Dr. Abbott began selling to the profession what he called a guaranteed, cumulative gold bond on his properties. At that time Dr. Abbott was advertising in the Journal. Dr. Harris at that time called the attention of the Board of Trustees to what he believed to be the fraudulent character of the Abbott bonds. The Board of Trustees took action on the matter and had two or three meetings with Abbott concerning these bonds, and as a result excluded his advertisements from the Journal. Dr. Abbott wished to continue his advertising in the Journal and asked for a re-hearing, stating that he had discontinued the selling of the bonds and would take up all that had been issued. A special committee of the Board of Trustees, of which I was a member, was appointed to give Dr. Abbott a hearing. At this hearing Abbott showed that his business had been entirely re-organized and re-financed, and that he would

no longer issue bonds. He also stated that he had already redeemed most of them and would take them all up.

In view of these facts the committee reported its findings to the Board of Trustees and the embargo which had been placed against Abbott was removed and he was placed on the same footing as any other advertiser. After that Abbott presented an advertisement to the Journal on a substance which had been acted upon by the Council of Pharmacy and Chemistry and which advertisement was accepted.

Dr. Simmons had nothing whatever to do with the matter, in fact he was in Europe when this occurred. Later other circumstances arose which made it necessary to exclude Dr. Abbott again from the advertising pages of the Journal, and that is the condition to-day.

So the story that Dr. Abbott was admitted to the advertising pages of the Journal by threatening him, is absolutely false and entirely without foundation.

Yours very truly,

W. T. SARLES.

In closing let us take to heart earnestly and soberly these words from the recent letter of the Board of Trustees of the American Medical Association: "Since 1899, when Dr. Simmons became editor of The Journal, his record is an open book to the entire world. It shows not only on every page of The Journal, but in all the numerous activities of the Association that have developed under his guiding hand. The great work which he has done in organizing and building up a better and nobler profession has the admiration of all who have knowledge of it, and his unrelenting exposure of fraud and deceit has brought on him and the Association vicious attacks from those who for years have been preying on the very blood of the innocent sick and but too often on the credulity of over-confiding members of the profession."

RECENT HEALTH LEGISLATION IN WISCONSIN.

From the Educational News Bulletin for June 30, 1913, we quote the following summary of laws passed up to that date by the legislature of 1913 bearing on the subject of health in its relation to education.

Chapter 158: Prohibits the use of the common drinking cup in public places, including public, parochial and private schools, and fixes a penalty for non-compliance.

Chapter 218: Requires each teacher in any public school to devote not less than thirty minutes each month, when school is in session, to giving pupils instruction as to ways and means of preventing accidents. It also requires the state super-

intendent to publish a book to be used by teachers giving such special instruction.

Chapter 274: Makes it unlawful for any person to sweep or permit sweeping in any state or public building, public, parochial or private school, or other educational institution, or to sweep or permit sweeping in hotels or department stores unless vacuum cleaners are used or reservoirs with properly filled dustless brushes, or the floor is first sprinkled with water, moist sawdust or some other substance to prevent dust.

Chapter 93: Gives the county board of supervisors authority to employ a trained graduate nurse to act as a consulting expert on hygiene and sanitation for all schools not already under medical inspection.

STRINGENT RESTRICTIONS ON THE USE OF TOBACCO BY BOYS.

Chapter 78: Provides that every person selling or giving to any one under the age of sixteen years tobacco in any form without the written consent of the parent or guardian shall be punished by a fine not less than \$10.00 nor more than \$25.00 for each offence. Further, that every person under the age of sixteen who shall smoke or use cigarettes or tobacco on any public road or in any public park or place of business or amusement when not accompanied by a parent or guardian, shall be punished by a fine or imprisonment.

THE FAUCIAL TONSIL AS A FOCUS FOR SYSTEM INFECTION.*

Formerly it was assumed that sore throat occurring in connection with acute rheumatism was but a local manifestation in the pharynx of the general systemic infection. It is now generally believed that sore throat in these cases represents the focus of entrance for the systemic infection. Furthermore, it is generally recognized that sore throat, for the most part acute tonsillitis, is very often the immediate cause for other systemic infections, such as acute endocarditis and acute nephritis. It has not been so generally appreciated that the faucial tonsils are very frequently the foci for chronic systemic infections, such as chronic arthritis, chronic neuritis, cardiovascular degeneration, and chronic nephritis. The general praeti-

tioner as well as the specialist has not fully appreciated the importance of the relation existing between infections, acute as well as chronic, of the faucial tonsils and certain systemic conditions. Very frequently in ill-nourished children the removal of the tonsils results in such an immediate and astonishing improvement in general health that can hardly be accounted for except on the assumption that the enlarged harmless looking tonsils contained foci for a mild systemic infection. In many of the tonsils there are dilated crypts containing the characteristic cheesy deposits which from time to time produce acute infection. The small tonsil embedded under a fold from the anterior pillar, and the tonsil with a deep horizontal fissure separating the upper from the middle thirds, are unusually susceptible to acute infections and are especially predisposed to the development of latent foci capable of causing systemic infections. Another type of faucial tonsil which is a frequent source of systemic infection is the stub remaining after partial removal, or where the tonsil has been subjected to igni puncture or surface cauterization. The treatment of a faucial tonsil suspected of harboring foci of infection is the same as such foci elsewhere in the body, namely, thorough removal of the suspected foci.

NEWS ITEMS AND PERSONALS

DR. T. R. WELCH has again located at Rhineland.

DR. W. O. McBRIDE, of Marinette, has removed to Fort Wayne, Ind.

DR. E. STEIGER, of Prairie du Chien, was injured, though not seriously, in a fall on June 26th.

DR. A. J. PULLEN, of Fond du Lac, sailed on June 28 for Naples, Italy. He will spend about two months touring Europe.

DR. FREDRICK J. NICHOLSON, of Walworth, was instantly killed on July 3, when his automobile plunged from a thirty foot embankment.

DR. S. E. WRIGHT, of Portland, Oregon, while on a short visit to his former home at Marinette, was tendered a dinner at the Oakwood Beach Club.

DR. H. J. WELD, Campbellsport, sustained severe injuries as the result of the overthrowing of his automobile at McSchooler's Crossing, two miles north of Campbellsport, on June 21.

DR. FRANK GREGORY, of Marinette, who retired from active practice a number of years ago to engage in business, will resume the practice of his profession at Valzale, Manitowoc County.

*Abstract of paper by Dr. George E. Shambaugh, Chicago, read at the Thirty-fifth Annual Congress of the Amer. Laryngological Assn., Washington, May 5-7, 1913.

DRS. F. C. HANEY, Watertown, and MILTON RICE, Milwaukee, were appointed members of the State Board of Medical Examiners to succeed Drs. W. C. Rodecker, Holcomb, and M. A. Barndt, Milwaukee. Dr. W. S. Thompson of Milwaukee was reappointed.

DR. LUDWIG HEKTOEN, of Chicago, was tendered a banquet on the fiftieth anniversary of his birth, July 2, at Westby, Wisconsin, his birthplace, by the citizens of that town.

DRS. DANIEL HOPKINSON, J. P. McMAHON, G. E. SEAMAN and JOHN M. BEFFEL, Milwaukee, were appointed an advisory committee to the local association of the American Red Cross Society.

DR. JOHN W. LEE, for the past five years located at Allouez, has left for a year's special study in diseases of the eyes, in Chicago, New York and abroad. After completing his course Dr. Lee will locate at Minneapolis, his former home city.

A CORRECTION.

Editor Wisconsin Medical Journal, Milwaukee, Wis.

Dear Sir: I notice on page 31 of the issue of your Journal of June, 1913, the statement that "the Medical School of Marquette University has been placed in Class A by Dr. N. P. Colwell, representative of the American Medical Association." This I recognize as a repetition of an item appearing in the local papers, but it is contrary to the facts. In the first place, personally, I do not have the authority of fixing the classification of any college. That matter rests with the Council as a whole, which has not as yet taken action. Secondly, the highest classification which could be recommended for that school, based on the recent inspection, is Class B. In order to prevent any misunderstanding, I feel this matter should be correctly stated.

Yours very truly,

N. P. COLWELL,

Secretary, Council on Medical Education.

BLOOMINGTON, WIS., July 9, 1913.

Editor Wisconsin Medical Journal,

Milwaukee, Wis.

DEAR DOCTOR:—

A drowning accident, by which Dr. R. H. Kinney, Misses Helen Godfrey, Lenora Edwards and Myrtle Judd, all of Lancaster, lost their lives, occurred June 27th in the Mississippi River, where

a party of young people were camping on an island, about two miles above Cassville.

Dr. Kinney was born and reared in Lancaster and was thirty-two years of age. He graduated from Rush Medical College in 1904. Intelligent, honest, unselfish and pure, he was beloved by all, and his future was one of great promise. He leaves a wife and two small children. Helen Godfrey was the only daughter of Dr. and Mrs. Joseph Godfrey, a girl of remarkable beauty of character, and was nineteen years old. She leaves besides her parents two brothers, the elder, Rush Godfrey, being a recent graduate from Rush Medical College. Lenora Edwards and Myrtle Judd were daughters of prominent families in Lancaster.

Dr. Kinney and Dr. Godfrey were members of Grant County Medical Society, and many members of that organization were present and attended the funeral services in a body.

M. B. GLASIER.

MARRIAGES

Dr. William Frederick Weick, Menasha and Miss Elizabeth Vernon Ridings, Delavan, June 24, 1913.

Dr. J. W. Pope, Racine and Miss Ida Jagerson, Chicago, June 27.

DEATHS

Dr. Samuel G. Bailey of Chicago, a resident of Janesville, Wisconsin, from 1855 to 1870, died on June 20, aged 92 years.

Dr. William Stewart, one of the first residents of the Village of Unity, died at his home on June 18, aged 83 years. Dr. Stewart was born at Fort Howard, now a part of Green Bay, in 1830. After graduating from an eastern medical school he practiced at Fond du Lac and Green Bay.

Dr. John Reineking of Hortonville, died on May 27, 1913, of cancer of the stomach. His literary education included graduation from Franklin Academy of Franklin, Wisconsin, and the Oshkosh Normal School. After graduation he taught in the public schools. He was a graduate of Rush Medical College (1887) and of Bellevue Hospital of New York City.

For twenty-five years he had a large and lucrative practice and was a popular practitioner in Outagamie County. He was married to Ina Viola McComb of Hortonville December 31, 1893.

He was a member of Outagamie County and the State Medical Societies.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

Officers 1912-1913.

ARTHUR J. PATEK, Milwaukee President

C. A. ARMSTRONG, Boscobel 1st Vice President

L. E. SPENCER, Wausau 2d Vice President

JOHN MATHIESON, Eau Claire. 3rd Vice President

CHAS. S. SHELDON, Madison Secretary.

S. S. HALL, Ripon, Treasurer.

ROCK SLEYSER, Waupun, Assistant Secretary.

Councilors.

TERM EXPIRES 1917
1st Dist., M. R. Wilkinson, - Oconomowoc
2nd Dist., G. Windesheim, - Kenosha

TERM EXPIRES 1913
5th Dist., J. V. Mears, - Fond du Lac
6th Dist., H. W. Abraham, - Appleton

TERM EXPIRES 1915
9th Dist., O. T. Hougen - Grand Rapids
10th Dist., R. U. Cairns, - River Falls

TERM EXPIRES 1918
3rd Dist., F. T. Nye, - Beloit
4th Dist., W. Cunningham, - Platteville

TERM EXPIRES 1914
7th Dist., Edward Evans, - La Crosse
8th Dist., T. J. Redelings, - Marinette

TERM EXPIRES 1916
11th Dist., J. M. Dodd, - Ashland
12th Dist., H. E. Dearholt, - Milwaukee

Delegates to American Medical Association.

L. ROCK SLEYSER, Waupun.

J. J. McGOVERN, Milwaukee.

J. F. PEMBER, Janesville

W. T. MURPHY, Waukesha

Alternates
F. T. NYE, Beloit.

T. J. REDELINGS, Marinette.

Committee on Public Policy and Legislation

A. W. GRAY, Milwaukee, Chairman.

J. P. McMAHON, Milwaukee.

F. F. BOWMAN, Madison.

Committee on Medical Defense.

G. E. SEAMAN, Milwaukee, Chairman.

S. S. HALL, Ripon.

A. J. PATEK, Milwaukee

Committee on Prevention of Tuberculosis.

M. P. RAVENEL, Madison.

G. E. SEAMAN, Milwaukee.

T. H. HAY, Stevens Point

C. A. HARPER, Madison

Program Committee.

W. F. ZIERATH, Sheboygan.

L. M. WARFIELD, Milwaukee, Chairman.

C. S. SHELDON, Madison.

Committee on Arrangements.

C. A. EVANS, Milwaukee, Chairman.

NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER 1-3, 1913.

The Wisconsin Medical Journal. Official Publication.

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

Table with 3 columns: County, President, Secretary. Lists medical societies across Wisconsin counties with their respective officers.

SOCIETY PROCEEDINGS

DODGE COUNTY

Dodge County Asylum, Juneau, July 10, 1913.

Meeting was called to order by the president. The following members were present: Drs. Tarnutzer, Goetsch, Scars, Steusser, Brooks, Krahn, Schoen, Skwor, Hallock, Schwalback, Panetti, Bachhuber, Hoyer, E. P. Webb, W. B. Webb, Ramond, Holtz, Von Hengel, Sleyster, Clark, Smith, North and Elliott, also Drs. Wilkinson, Peters and Wing of Oconomowoc and Dr. Lorenz of Mendota. Minutes of previous meeting read and approved. Dr. Hallock then gave an informal talk on the care of insane at county asylums. He touched on many points that were of interest to all and brought forth a general discussion. In this general discussion some one kicked over the traces and landed on the subject of chronic alcoholism and its relation to crime and insanity. Dr. Hoyer said he believed that the State should maintain an institution for the care of these cases and instead of arresting them and giving them 30 days in county jails, they should have care, treatment and a helping hand. This brought forth a motion by Dr. Brooks which was quickly seconded that the president appoint a committee of three and this was amended to read that we also procure the services and assistance of Judge Lenck, who was present, to assist in the drawing up of the following resolutions:

To Wisconsin State Medical Society:

First—*Whereas*, Chronic Alcoholism is primarily a medical question and the present practice is to view it from its social aspects alone,

Second—*Whereas*, The proper treatment of this condition is rewarded by a large percentage of recovery,

Third—*Whereas*, Institutional treatment is recognized as the most efficient method of handling these conditions,

Fourth—*Whereas*, The treatment in a state institution for the insane is decidedly beneficial and in every respect modern and scientific yet the patient is not taken to an insane hospital for treatment until he has committed some offense which has brought him to the attention of the police.

Fifth—*Whereas*, The commitment as "insane" of a chronic alcoholic is not justifiable in the vast majority of cases and when such commitment does take place the community alone receives the consideration, in other words, the individual is permitted at large just so long as he does not upset the order of society,

Sixth—*Whereas*, under our present system, treatment is much delayed because of the unjust public stigma that attaches itself to one committed as an insane individual, and as a result, friends and relatives hesitate in bringing about the commitment of the patient.

Therefore Be It Resolved, By the Dodge County Medical Society in session that chronic alcoholics should be treated under the supervision and direction of the state;

but that means be provided for such treatment by the state separate from and independent of the present state penal and charitable institutions.

Further Resolved, That these resolutions be forwarded to the State Medical Society at its next session with the urgent request that the state organization actively interest itself in inducing the Legislature of our State to make provisions for the care and treatment of chronic alcoholics by scientific means but independent of the present charitable or penal institutions.

F. D. BROOKS,
W. E. HALLOCK,
A. A. HOYER,

Committee.

While these resolutions were being drawn up some one said "Dinner" and we all repaired to the dining hall to find a table that would seat 40 or more, beautifully decorated and we had one genuine banquet, trimmings and all. After the banquet we listened to Judge Lenck on Medical Expert Testimony. I wish every physician in the state might have heard him. It was the honest opinion of an honest man and he told us that all this trouble over expert testimony would cease if the medical expert would tell the truth, regardless of whom it lit or helped and in simple language that the every day juror, judge and lawyer could understand. Then followed a paper by Dr. Lorenz, of Mendota, on Paresis and Tabes which in itself was a masterpiece and was a genuine treat to all.

E. S. ELLIOTT, M. D. *Secretary.*

FOND DU LAC COUNTY

The July meeting of the Fond du Lac County Medical Society was held at the Bellevue in Fond du Lac, Wednesday, July 9, at 7 P. M. After supper president Bishop called the meeting to order and after introductory preliminaries, Dr. G. V. Mears read a paper on Diabetes. This was generally discussed. Dr. G. F. Schieb then presented a clinical case of tubercular keratitis with discussion of history and treatment. The committee President Bishop had appointed to draw up resolutions on the death of Dr. M. A. T. Hoffman reported as follows: "To the Fond du Lac County Medical Society:

We, your committee, beg leave to submit the following resolutions on the death of one of our members, Dr. M. A. T. Hoffman.

Whereas, we keenly feel and deplore the loss of one of our best members whose life and work has been an inspiration and credit to our profession,

Resolved, That we hereby take this opportunity to express our keen regret and sorrow for his sudden and untimely death, and, that, as we who knew him best in his public and private life, feel that the loss of the loving husband and father can never be replaced, we can but wish that the impulses of sorrow tugging at the heart strings of a fond wife and children may be tempered by the knowledge that he has but passed from this world of lights and shadows across the bar, to the world of immortality, where we all hope to be reunited.

Be it further resolved, that a copy of these resolutions be spread upon the minutes at the next meeting of our society and also a copy sent to his family.

P. J. CALVEY,
F. M. MCGAULEY,
H. E. TWOHIG.

MARINETTE COUNTY

Marinette County Medical Society held its special summer meeting July 2nd at the Hotel Marinette. Prof. A. S. Loevenhart of the Department of Pharmacology and Toxicology of the University of Wisconsin gave a very instructive lecture on Therapeutic Fallacies. Among the subjects considered were Digitalis in Partial Heart Block. He explained that atropine was the better drug for the time being that digitalis might be of use later on. Alcohol as a stimulant was a fallacy, that it had a field of usefulness in older persons taken with food and after severe exposure but certainly not before. Anesthetics received much attention. He said ether was eight times safer than chloroform, that even in childbirth it was unsafe to use chloroform for complete anesthesia, that aside from the accidents that take place during the first few moments, that degenerations take place in the liver and cause late deaths. He thought the use of atropine and morphine before starting the ether of much benefit, that atropine could be used in much larger doses than is generally given. 1/60 could be given with safety. Aside from the help in keeping the mucus from forming in the throat its effect upon the vagus nerve was positive. He dwelt at length upon sleep, that anesthesia was not sleep, but the reverse, from a physiologic standpoint.

Dr. Robert Walker of Menominee read a paper on the Thyroid and Para-Thyroid Glands, dealing at length with experimental research and giving the late accepted ideas of their functions and surgery.

Dr. H. A. Vennema of Menominee read a very interesting paper on the legal relations of the physician to the patient, that a physician could use his own judgment in accepting a patient, however, once under his care, he also accepted a legal responsibility.

The company later enjoyed some good stories while the repast was being served in the dining room.

MAURICE DUANE BIRD, M. D., *Secretary.*

BOOK REVIEWS

A TEXT BOOK OF BIOLOGY. For Students in Medical, Technical and General Courses. By William Martin Smallwood, Ph. D., (Harvard). Professor of Comparative Anatomy in the Liberal Arts College of Syracuse University, and in charge of Forest Zoology in the New York State College of Forestry at Syracuse. Octavo. 285 pages; illustrated with 243 engravings and 13 plates, in colors and monochrome. Cloth, \$2.75. net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

Biology, is now recognized as one of the fundamental sciences in the study of medicine, and most of the medical colleges of this country either require a knowledge

of it for entrance, or include it as part of the preliminary instruction. This has given a new stimulus to the teaching of this subject, and has awakened a broader interest in it than ever before. The appearance of a new textbook, written in accordance with the most modern ideas, and designed to meet the needs of the medical student, is therefore timely. Professor Smallwood's work is unique in the excellence of its instruction and the high standard of its numerous illustrations. The method of imparting the facts leads the reader to think for himself and cultivates his powers of observation—a very important point. To the physician who graduated before Biology was generally taught in the medical curriculum the book should be of especial interest and value.

PROGRESSIVE MEDICINE: a Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences, Edited by H. A. Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, assisted by Leighton F. Appleman, M. D., Instructor in Therapeutics, Jefferson Medical College, Philadelphia. Lea & Febiger, Publishers. Philadelphia and New York. Price, \$6.00 per annum.

Vol. 1 of Progressive Medicine contains: Surgery of the Head, Neck, and Thorax, by Charles H. Frazier, M. D.; Infectious Diseases, Including Acute Rheumatism, Croupous Pneumonia, and Influenza, by John Ruhrah, M. D.; Diseases of Children, by Floyd M. Crandall, M. D.; Rhinology and Laryngology, by George B. Wood, M. D.; Otology, by Arthur B. Duell, M. D.

Vol. 2 of Progressive Medicine contains: Hernia, by William B. Coley, M. D.; Surgery of the Abdomen, Exclusive of Hernia, by John C. A. Gerster, M. D.; Gynecology, by John G. Clark, M. D.; Diseases of the Blood, Diathetic and Metabolic Diseases, Diseases of the Thyroid Gland, Nutrition, and the Lymphatic System, by Alfred Stengel, M. D.; Ophthalmology, by Edward Jackson, M. D.

This number of Progressive Medicine lives up to the high standard of excellence which we have come to expect from this publication. Each department of medical activity is covered in a thoroughly satisfactory manner.

THE OPERATING ROOM AND THE PATIENT. By Russell S. Fowler, M. D., Chief Surgeon First Division, German Hospital, Brooklyn, New York. Third Edition Rewritten and Enlarged. Octavo volume of 611 pages with 212 illustrations. W. B. Saunders Company, Philadelphia, London. 1913. Cloth, \$3.50 net.

In this volume Dr. Fowler has presented a manual of pre- and post-operative treatment beginning with the arrangement of the operating room, the personnel of the operating room and their costumes and duties, the preparation of instruments and supplies, anesthesia, and the pre-operative preparation and the primary dressing of the patient.

After this the general considerations in the after-treatment are discussed followed by a detailed account of the care of the wound, hemorrhage and its management, complications of wound infection, complications

the results of antiseptics, complications the result of pressure, and circulatory complications.

Following these chapters are those devoted to a discussion of operations upon special tissues and upon the various portions of the body with regard to the question of pre- and post-operative treatment.

It will be seen that this volume covers a large and useful field for the ordinary text-book of surgery, or even a manual of operative surgery, has too scant a space for the consideration of the important periods which precede and follow the operation itself.

The book is well written and well illustrated and will amply repay reading by all who wish to do good surgery.

CHLORIDE OF LIME IN SANITATION. By Albert H. Hooker, Technical Director Hooker Electrochemical Company, Niagara Falls, John Wiley & Sons, New York, 1913.

"On the advice of Dr. L. H. Baekeland, President of the American Institute of Chemical Engineers, and chemical counsel of the Hooker Electrochemical Company, the research department of the latter company undertook to collect all data relating to the uses of chloride of lime in sanitation.

"An unexpectedly large amount of important information was thus obtained, and the fact was clearly revealed that this inexpensive chemical was one of the most valuable and economical agents available for the protection, in many ways, of the public health.

"It, therefore, seemed almost a duty to place before sanitarians and those in charge of work connected with public health, the information brought together, all of which is not readily accessible. Hence this book was written.

"Instead of presenting a dry enumeration of bibliographical abstracts, it was thought preferable to offer the subject in a somewhat more connected form in several chapters, each dealing with a different problem of sanitation."

The following subjects are discussed: Chloride of Lime, Chloride of Lime for Water Purification, Sewage Disinfection, Street Sprinkling and Flushing, Epidemics, Surgery and General Sanitation, Chloride of Lime on the Farm, The War Against the Infectious House Fly.

The reader who desires more information may find it in the chapter of abstracts at the end of the volume where subjects can be traced further to the original sources of information.

GOLDEN RULES OF SURGERY. Vol. I of the Golden Rule Series. Especially intended for students, general practitioners, and beginners in surgery.

By Augustus Charles Bernays, A. M., M. D., F. R. C. S., Eng., St. Louis. Second Edition, revised and rewritten by William Thomas Coughlin, M. D., Asst. Prof. of Surgery, Chief of Clinic, St. Louis University Medical School, St. Louis. 280 pages. Octavo. C. V. Mosby Co., St. Louis. Price, \$2.25.

The entire absorption of a large first edition of the Golden Rules of Surgery made necessary the issue of the present one. Its enlargement and elaboration by the junior author has made it possible to cover the en-

tire field of surgery in a thorough and systematic manner, at the same time preserving the character and charming style that made the first edition of this book popular.

HANDBOOK OF DISEASES OF THE RECTUM. By Louis J. Hirschman, M. D., President of the American Proctologic Society, Lecturer on Rectal Surgery and Clinical Professor of Proctology, Detroit College of Medicine.

Revised and rewritten, second edition. 338 pages.

Royal Octavo—172 illustrations—including four colored plates. Price, \$4.00. C. V. Mosby Co., St. Louis.

The first edition of Dr. Hirschman's book met with a hearty reception at the hands of the medical profession. The present edition has been entirely rewritten, forty new illustrations, including two colored plates, have been added, and the entire book has been reset. This is pre-eminently a book for the general practitioner. It is written in the hopes that this class of the medical profession will arouse themselves to the possibilities of this line of work and not allow the charlatan and the advertising quack to take from them work which can be done by the legitimate practitioners of medicine. To that end special attention has been paid to office work in rectal diseases and the part that *local anesthesia* plays in this class of work.

THE CAREER OF DOCTOR WEAVER. By Mrs. Henry Baekus. Illustrated by William Van Dresser. L. C. Page & Co., Boston, 1913.

This story is an honest attempt to show the laity the contrast between a high-minded philanthropic, sincere physician, and an energetic, but money-loving humbug who sacrifices his very ideals for the sake of social position and popularity. The author is a firm believer in the doctor's having a larger sphere of influence, far beyond his own practice, and while the popular Dr. Weaver is too busy to think of the greater good of humanity, the unobtrusive Dr. Jim is doing all he can, as a matter of course, to help the reform party clear up politics, and, incidentally, the city. The love story woven into this very medical atmosphere is delicately revealed, and the author most considerately has chosen for her heroine, not a trained nurse, but a school teacher of a very charming type.

The book is somewhat over emotional in places, but has the merit of being exceedingly readable.

HYGIENE AND SANITATION. A Text-Book for Nurses. By George M. Price, M. D., Director, Joint Board of Sanitary Control; Director of Investigation, New York State Factory Commission. 12mo., 236 pages. Cloth, \$1.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

All medical men have for years realized the great possibilities of hygiene and preventive medicine, and though much good has everywhere been accomplished by the institution of hygienic measures, a great deal remains to be done, and this must be largely achieved through the education of the public. In the attainment of this end no factor is as important as the nurse. Every day she has opportunities to impress upon the laity some of the principles of hygiene and their practical application, and it is therefore one of the most essential elements of her

training that she should be well informed on a subject of such universal importance. This new work from the pen of Dr. Price is admirably suited to the needs of the nurse in the discharge of her professional duties and its simplicity of diction renders it equally valuable for home use. It is a work to be recommended to all persons interested in the prevention of the spread of disease.

TUBERCULIN IN DIAGNOSIS AND TREATMENT. By Francis Marion Pottenger, A. M., M. D. LL. D., Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California. 243 pages, royal octavo, 35 illustrations, including one colored plate. Price, \$3.00. C. V. Mosby Co., St. Louis.

The trend of modern therapeutics is toward the use of specific bacterial products in the treatment of infections. Since the fundamental principle was discovered by Pasteur many men in many laboratories all over the world have been working to produce all infectious diseases experimentally in order to recover some specific vaccine or serum for every disease.

Since Koch in 1890 published his tuberculin therapy we have seen the birth, almost annihilation, certainly villification, and gradual rise into favor of tuberculin therapy in tuberculosis. It must be borne in mind that immunity to tuberculin does not mean immunity to tuberculosis.

The small volume before us written by Dr. Pottenger contains the gist of the subject of tuberculin diagnosis and therapy. Both subjects are discussed clearly and concisely by one of large experience and gifted with the sense of accurate observation. There are twelve chapters covering the whole field of the subject without going into the minutiae which might have added pages without adding value. The author has written the book for general use. It is not a treatise for the laboratory worker or for the specialist but for the man who does conscientious general practice and endeavors to give his patients the best that it is possible to give them. This book should be especially valuable to the man who wants an authoritative opinion on how to use tuberculin.

EPIDEMIC CEREBROSPINAL MENINGITIS, by Abraham Sophian, M. D. Formerly with New York Research Laboratory. Twenty-three illustrations. C. V. Mosby Company, St. Louis, Mo. 1913. \$3.00.

Autobiography is always interesting reading and becomes much more so when the author has really accomplished something worth while. Actual experiences lived through and then well told make the most valuable contributions to literature.

This line of thought is suggested by the book which lies before the reviewer. Truly Dr. Sophian has lived through the experiences which he relates and came to those experiences with a unique training. His book is alive with personal observations, actual hard, laborious work and therefore as a contribution to the literature of cerebrospinal meningitis stands, so far as we know, quite alone. One can not help but feel as one reads the book that the writer speaks with the authority borne of wide experience coupled with the most accurate and painstaking observation. Condensed into some 250 pages

is the whole story of this most interesting and hitherto fatal disease. Aided by modern research on the curative value of antimeningitis serum Dr. Sophian was able to accomplish results in treatment which had never before been possible.

He has divided his book into six chapters dealing with Etiology, Symptomatology, Laboratory Diagnosis of Meningitis, Complications, Studies on Blood-Pressure in Meningitis, and Treatment. The most interesting portion is the series of observations on prophylactic vaccination with heated cultures of meningococci. It would appear that Dr. Sophian has made a very important contribution to the subject of prophylaxis in meningitis.

After reading the book through and knowing but relatively little about the subject it would be presumptuous to criticise. The fact is that it would indeed be a carping critic who could find anything at which to level his shafts of criticism. We do not remember to have read but one other book which has so impressed us. That is Dr. Cushing's Disorders of the Pituitary Body.

We have no hesitancy in recommending this book to the profession, in fact we would go so far as to urge that this book be not only on the shelves of the physician's library but that he read it from cover to cover.

INTERNATIONAL TEST TYPES WITH UTILIZATION OF LANDOLT'S RINGS. von Hess, C., Professor, München. 2nd edition. Wiesbaden: J. F. Bergmann, 1909. 1 M. \$0.25.

That these international test types (2 charts with 2 pages of text by C. von Hess in portfolio), met with general approval is evidenced by the appearance of a second edition. As pointed out in our review in Wisconsin Medical Journal, April, 1910, p. 553, they consist of numbers and Landolt's rings, and were declared as international at the international ophthalmological congress at Naples in 1909 by the commission, appointed by the 10th international congress at Luzern, 1909, which consisted of Charpentier, Dimmer, Eperon, Jessop, Nuël, Reymond and Hess. They are calculated for a distance of 5 m., and the acuity of vision is expressed in decimals.

The principle for the construction of these tests was that the normal eye at an average distinguishes two points separately if seen under an angle of one minute, on which also Landolt's rings are based. As the majority of oculists did not wish to discard numbers or letters, it was ascertained by systematic investigations of what sizes the numbers must be, in order to be accurately recognized at the same distance as the corresponding rings. The result was that the numbers had to be made quite smaller than so far supposed from erroneous theoretical conceptions V 1.0 of these types represents a higher degree of vision than V 6 6 of the old designation according to Snellen.

For a more detailed exhaustive discussion of the subject we refer to the excellent expose of C. Hess in Archiv für Augenheilkunde LXIII, p. 239.

After the international ophthalmological congress has stamped these test types as international, it is to be wished that every ophthalmologist will make use of them.

C. ZIMMERMANN.

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ORIGINAL ARTICLES

PROTECTION OF THE EYES OF SCHOOL CHILDREN*.

NELSON M. BLACK, M. D., AND F. A. VAUGHN,
MILWAUKEE.

This discussion is prompted by the feeling that, by proper co-operation between educators, ophthalmologists, illuminating engineers, publishers, and others, reading matter in the form of school books, and the illumination of the school rooms by daylight and by artificial light can both be improved to such an extent as to materially protect and preserve the eyesight of school children, to the inestimable advantage of the present and future generations.

The Committee on Course of Study of the Board of Education of New York City says, in the Journal of the Board of Education, 1908, page 2324:

"It is a well established fact that myopia among children grows in frequency of occurrence with each completed school year, and that it increases in frequency as additional book work and written work are imposed on the pupils by school requirements. It is, furthermore, agreed that much suffering, due to myopia, hypermetropia, astigmatism and asthenopia, is caused by the non-discovery of these troubles in their first stages; that not only are parents and teachers very frequently ignorant of the presence of these eye defects in the child, but that the child himself does not realize that his eyes are defective, and that his disinclination to study is sometimes due to one of these imperfections, undiscovered, and hence uncorrected. It must be remembered in this connection, however, that disinclination to study and defective vision are not necessarily associated, unless the defect is serious. As only five per cent of all cases of myopia are believed to be due to unpreventable and uncontrollable causes, and as a great majority of cases of myopia are more or less directly traceable to eye-strain in school, it becomes a matter of duty for parents and school authorities to remove or modify, so far as possible, all controllable conditions that tend to impair eyesight during school years. It is impossible to dispense with the teaching of reading and writing, but it is possible to improve the physical

conditions under which reading and writing are being done. The kind of paper used in readers and copy-books, as well as the amount of reading and writing done, are among the conditions which can be controlled and regulated. Furthermore, it is possible to detect existing ocular diseases and to adopt means calculated to give relief."

Dr. Saml. D. Risley and Dr. Frank Allport were the pioneers in the introduction of the examination of eyes of school children. The result of Dr. Allport's work in the schools of Minneapolis, Minnesota, in 1895, showed that 32% of the school children had defective eyesight to a greater or less degree. As a result of his efforts examinations of the eyes of school children are being carried on throughout the entire country.

The Illuminating Engineer of September, 1911, copies the following suggestions, regarding the "remediable causes of eye-strain in present school conditions," embodied in the report of the Association of Woman Principals of the Public Schools of New York City, which had a number of items relating to the subject under discussion. (See Journal of Board of Education of the City of New York, April 22, 1908, page 623.)

"1. That hereafter no calendered or coated paper be permitted in the text-books given to the children, as the dazzle of such paper is injurious to their eyes.

"2. That half-tone pictures be not permitted in school books, but that simple, easily seen outline pictures be substituted for them.

"3. That the length of line in school books be from a minimum of 2½ inches to a maximum of 3 inches.

"4. That the space between lines be not less than 3 mm.

"5. That in reading, the children hold their books at an angle of approximately 45 degrees, and that in oral reading they be required to look up frequently.

"6. That after a lesson demanding close work the children be asked to look up at the ceiling, or out of the window, to change the focus of their eyes and rest the muscles of accommodation.

"7. That classrooms be equipped with loose chairs of different sizes so that the children may sit in seats that fit them, placed where they can see best.

"8. That in the first two years of school, all writing be upon the blackboard instead of upon paper.

"9. That all rooms in which artificial light is burned continually be closed.

*The original draft of this discussion was read before the Milwaukee Medical Society, at Milwaukee, Wisconsin, February 13, 1912. It has been revised and expanded for this issue.

"10. That no part-time classes be permitted to occupy any room in which the light is not entirely satisfactory.

"11. That electric bulbs used in lighting classrooms be made of frosted glass, and that clusters of such bulbs be provided with pale amber shades to screen the pupils' eyes from the direct rays of light."

As these suggestions have since been acted upon by the New York educational authorities (See Journal of the Board of Education of the City of New York, December 9, 1908, and also an article on Artificial Lighting of the New York City Public Schools, by S. A. Thomas, in "Good Lighting," December, 1912, page 521) and form a good basis for discussion, the present writers wish to make the following criticisms and additional remarks with reference to them from the view point of the ophthalmologist and the illuminating engineer:

(1) The suggestion of avoiding the glare from glazed, or calendered, paper in school books cannot be too highly commended and a point immediately presents itself for consideration as to whether it would not be better to go still further and have the paper a light tinge of amber, or other hue, or perhaps better still, have alternate pages of different tints. The reason for making such a suggestion is this: Some time ago, one of the writers, while reading proof (which is usually printed upon grayish white uncalendered paper) with apparently perfect comfort, suddenly came upon two or three pages printed upon a light yellow, or amber, tinted paper about the color of the tissue paper upon which duplicate train orders are written. The feeling of ease and comfort to the eyes was so marked that it was startling, especially so as there had been no sense of discomfort noticeable before. That changing from the tinted sheets back to the white sheets again *did not* seem to produce any discomfort, was also noticeable. The experiment has since been tried many times, always with the same effect, i. e., the sense of ease and comfort when the amber tinted sheets were substituted. This may, of course, be an individual peculiarity, but it would at least be interesting to learn how it would affect others, and what two tints would be best.

(2) While every reasonable effort should be made to eliminate specular reflection, or glare, from the surface of school books, it is believed that a satisfactory quality of paper can be secured and utilized which will, at the same time, produce very attractive half-tone pictures, the proposed

elimination of which from school books would, it seems to the writers, be little short of a calamity from an educational standpoint.

It is not deemed possible that the educational value of any simple outline picture of, for instance, a famous piece of statuary, a painting, or a wild animal, could be compared with a modern, well made half-tone, especially if made by the offset process of printing on matt surfaced paper.

This statement is not intended to depreciate the artistic and educational value of outline drawings, as exemplified by the sketches and etchings of great artists; but it is believed that the half-tone in its various forms is capable of producing with less talented artists and less expense, a more accurate representation than any other process. While these characteristics make the half-tone particularly suitable for use in school books, it is of course quite as essential that line drawings supplement them—the elimination of either form of illustration would be undesirable. The modern books for school use and children's reading are particularly valuable, attractive and interesting because of their profuse illustration by means of the half-tone.

It is certain that by proper investigation a satisfactory combination of half-tone and print could be secured with a sufficiently matt surfaced paper of comfortable tint to be worthy of general adoption; especially when advantage is taken of the fact that experimental data tend to show that the more diffused the light in the room, the less objectionable the dazzle, or glare, from the paper becomes. It would, therefore seem reasonable to expect a tinted paper, with the characteristics of a matt, or uncalendered surface, used under the indirect system of illumination, or some system approaching it in diffused characteristics, would give excellent results and still save the half-tone from exile.

Dr. Geo. P. Barth, chief medical inspector of schools of Milwaukee, Wisconsin, mentions one consideration with respect to the books for school children which is not touched upon and which seems quite important, i. e., the thickness of the paper used in books. This should not be under 0.075 mm. Furthermore, the paper should not contain a large amount of wood pulp, as it causes it to be too transparent. The type impressions on such paper also cause elevations to appear on the opposite side, interfering with the legibility of

the print on that side. Javal (*Les livres scolaires et la myopie*) proposes paper of a yellow tone and Weber proposes a grayish tinge, but the Elasser Commission (*Ref. Vierteljahrsehr. f. Off. Gesundheitspflege*, Bd. XIII, P. 432 et 101), after trial, advises against both in favor of a pure black ink on a pure white surface. Cohn (*Lehrbuch der Hygiene des Auges*, 1891, P. 486) comes to the same conclusion.

Miss B. E. Roethlein, in the *Legibility of Different Faces of Printing Types* (Clark University Library, Vol. 3, No. 1, 1912) says:

"This question (of dependence of legibility upon quality and texture of paper) has been raised in various forms in the history of the art of printing. Many years ago Babbage recommended the use of slightly yellowish paper for the manufacture of books; and indeed he succeeded in persuading a publisher to produce a book of logarithms in accordance with this recommendation. More recently Javal has advocated a similar innovation, urging that such a plan would minimize the disadvantage to which the reader is subjected on account of the intensive contrast between the black ink and the white paper which are in general use. It is impossible, from data available in the literature of this and cognate topics, to determine whether this Babbage-Javal suggestion is really of value. But such results of the present investigation as have a bearing upon the question would seem to indicate that little or no improvement of legibility is to be expected from progress in this direction."

"It does not seem," says F. M. Urban, "that this Babbage idea was intended for ordinary books which are read in the customary way, but for reference books only which like tables of logarithms, must be consulted a great many times and where the information required must be picked out from a great number of similar data. It seems that Babbage's idea has stood the test of experience and is now past the experimental stage. The geographical survey of the French army (*Service géographique de l'armée*) publishes logarithm tables which make use of Babbage's suggestions. All these tables are printed on colored paper which is absolutely dull, so as to avoid the glare of reflected light. The tables which are most frequently used are printed on slightly yellowish paper; and only the tables of the trigonometric functions in the hexagesimal division of the circle are printed on blue paper in order to make these tables easily recognizable. The success of this plan is indisputable. The first edition of the tables with five places was soon exhausted; a new edition had to be issued in 1906, which, except for the elimination of a few misprints, is an exact reproduction of the first.

"These tables are superior in many respects to the ordinary tables, so that one cannot attribute their success to any particular feature. The fact, however, that the colored paper is used in both editions suggests that this innovation has proved to be useful. Anybody who is sufficiently interested can easily verify the superiority of the tables of the French survey by the following experiments: Use these tables the first evening for from two

to three hours, and on the following evening repeat the calculations with any other logarithm table. The mental strain and the fatigue of the eyes will be considerably greater in the second case. I called the attention of several of my friends to these tables and they all agreed as to their superiority—a testimonial which found its realistic expression in the purchase of a copy of the book by those who have to use logarithms a good deal."

A very lively discussion of the advisability of using black paper with white letters was indulged in at great length a few years ago. One difficulty encountered here is the fact that a suitable black paper is rather hard to produce. Tints, however, make it possible for paper-makers to economically utilize their stock with minimum waste and labor.

(3) Why the length of lines should be "from a minimum of $2\frac{1}{2}$ inches to a maximum of 3 inches" is not understood, as certainly the lateral movement of the eyes in passing over a line 4 to 6 inches long is not a tiresome, or injurious, proceeding. On the contrary, the movement of the ocular muscles in carrying the visual axis to the end of a long line and then back to the beginning of another line gives a greater range of movement to the eye, which is certainly easier than short, rapid oscillations. It also allows a greater length of time for rest of the perceiving elements of the retina, if not an actual rest of the accommodative effort.

It is true that, with small faced type used in text with the words close together and small space between the lines, there is difficulty in picking up the succeeding line when the lines are over three inches long. This difficulty is not encountered when the proper style of type is used and there is sufficient space between the letters, words and lines.

(Exemplify the points discussed in this paragraph by comparison of the different sizes of type, with different spacing, used in this, the former and the following paragraphs.)

(4) The space of 3 mm. between the lines is suggested, but nothing is said of the size or form of the letter, or type, or the space between letters and words, which certainly is of equal importance.

Katherine D. Blake, chairman of the Committee on Children's Welfare, which submitted the above ten recommendations says in an explanatory letter:

"The physicians accepted recommendation No. 3 as prepared by my committee, but No. 4 did not satisfy them. As originally prepared it read as nearly as I can remember 'That the space between the lines be twice the height of the capital letters.' They thought this vague, so the Advisory Council substituted the 3 mm.

of the metric system. The Committee on Children's Welfare accepted the change, and that is why the two systems of measurement appear in the report."

"It seems that this difficulty of keeping the eye on the same line depends on two factors, the amount of space between the lines and the number of lines which are grouped together. Mistakes are rare if the lines are very far apart; but they seem to become more frequent with decrease of the space between the lines. It is, therefore, a legitimate question to ask, what is the minimal space between the lines which is compatible with accurate reading? Another important point to consider is the amount of fatigue produced by different types and by different spacings." (F. M. Urban, Remarks on Legibility of Types.)

Miss Roethlein conducted, at Clark University, as exhaustive a test as has been made public on the Relative Legibility of Different Faces of Printing Types and the conclusions are given below. While much more may and must be done in this line by ophthalmologists and illuminating engineers, as well as psychologists and publishers, the contribution is an addition to this subject that is worth while.

"V. CONCLUSIONS:

"1. Certain faces of type are much more legible than other faces; and certain letters of every face are much more legible than other letters of the same face.

"2. These differences in legibility prove to be much greater when letters are presented in isolation from one another than when they are presented in groups.

"3. Legibility is a product of six factors: 1, the form of the letter; 2, the size of the letter; 3, the heaviness of the face of the letter (the thickness of the lines which constitute the letter); 4, the width of the white margin which surrounds the letter; 5, the position of the letter in the letter group; 6, the shape and size of the adjacent letters. In our experiments, the first factor seemed to be less significant than any of the other five, i. e., in the type-faces which were employed in the present investigation, the form of any given letter of the alphabet usually varied between such narrow limits as to constitute a relatively insignificant factor in the determination of its legibility.

"4. The relatively heavy-faced types prove to be more legible than the light-faced types. The optimal heaviness of face seems to lie in a mean between the bold faces and such light faces as Scotch Roman and Cushing Monotome.

"5. The initial position in a group of letters is the most advantageous position for legibility; the final position comes next in order of advantage, and the intermediate, or internal, positions are least favorable for legibility.

"6. The size and the form of the letters which stand adjacent to any given letter play an important role in determining its legibility; and the misreadings which occur in the case of grouped letters are of a wholly different sort from those which occur in the case of isolated letters. When letters of the same height, or of similar form, appear side by side, they become relatively illegible. But the juxtaposition of an ascender, a descender and a short letter tends to improve the legibility of each, as also does the juxtaposition of letters which are made up wholly, or chiefly, of straight lines and letters which are made up wholly, or chiefly, of curved lines.

"7. The quality and the texture of the paper is a much less significant factor than has been supposed—

provided, of course, that the illumination and the inclination of the paper are such as to secure an optimal condition of light reflection from its surface.

"8. There is an urgent need for modification of certain letters of the alphabet."

Prof. Snellen found that letters whose height and width subtended an angle of 5 minutes and the width of whose component parts subtended an angle of 1 minute could be easily seen by the average normal eye. Although many eyes, especially in young people, will be found to have an acuteness of vision greater than this, it has been found to be a convenient and satisfactory standard of visual acuity and has been generally adopted by ophthalmologists as such. The size of the letters might, therefore, conform to the average visual angle at the distance used; that is, each stroke of the letters might subtend an angle of 1 minute at the average reading distance of 33 cm., the whole letter subtending an angle of 5 minutes. This conforms to the Snellen Optotype and the various charts used to test the visual acuity in common use by ophthalmologists.

It is suggested that the space between the letters and words might be indicated by the report of the Committee of the International Congress of Ophthalmology at Naples (1910). In their decision the ability to distinguish points separated by an angle of 1 minute was adopted as a standard of normal visual acuity.

This may be tested by two black dots on a white ground, each dot a circle subtending an angle of 1 minute, with a space equal to the diameter of each dot, between them. This is interpreted by the writers to mean two black discs, rather than circles, each one minute in diameter, the edges of which are separated by a one minute angle.

(5) Involuntarily, in reading, one will shift the angle of one's book or paper until sufficient illumination is secured and the glare or dazzle on the paper has disappeared or passed out of the area one is observing. Would it not, therefore, be more suggestive to teach the pupils the proper method of quickly discovering the angle at which least glare and best illumination is secured and the rudimentary principles involved in this suggestion, and not restrict them to any definite position? They might be trained to intuitively adjust conditions most suitable to their individual requirements. The 45 degree position suggested by the report might easily be the one at which the greatest specular reflection and glare are obtained.

(6) The editor of the Illuminating Engineer

says, "The suggestion that children look up at the ceiling or out of the window to rest the eye, is not clearly evident. The windows are the most brilliantly illuminated area in the school room, and the ceiling generally white and the next most brilliant surface. While looking into the distance changes the focus of the eye, looking at the window would necessitate a change in the pupillary opening, while looking at the ceiling requires an unnatural movement of the eyeball. It would seem a much more effective method to simply close the eyes and place the hands over them, thus giving them absolute rest. This is something that we do involuntarily when the eyes are overstrained by overwork."

This suggestion brings to mind a recent paper by Dr. W. H. Bates, on "Prevention of Myopia in School Children" (New York Medical Journal, July 29, 1911), who found in 1903 in the examination of 1,500 school children (at Grand Forks, N. Dak.) 6 per cent myopic.

He concluded, that children have found from experience that to accomplish most things an effort was required; that in viewing most near objects a voluntary effort of accommodation made them more distinct, and that most of them made an accommodative effort when looking at the blackboard or distant objects in the school room instead of relaxing the accommodation or allowing it to relax. An attempt to see distant objects with the eyes focused for near objects resulted in functional myopia. Bates demonstrated this condition with the retinoscope in eyes which showed normal vision tested with Snellen test types, when the child regarded a picture, map, writing on the blackboard, a person or some object with which he was familiar at the same distance the test types were located. He states that the Snellen test types "enabled the pupil to know when an improper effort to strain, or see, was made. It was only when the eyes were properly adjusted for distant vision that the small letters were read. With other distant objects children had greater difficulty in knowing when the focus was adjusted accurately."

At Bates' suggestion, Snellen test types were placed in all the rooms in the Grand Forks schools with directions for their use. The results were so encouraging that the method has since been employed continuously and the 1910 examination of 2,000 children showed less than one per cent myopic.

Edgar Bates, in an article entitled "Eye Strain Among Public School Children," (Ophthalmology, January, 1912) brings out a thought which, it would seem, strengthens the idea advanced by his confiere of the same name in New York.

"That the so-called error of refraction is but one of the causes of eye-strain is evident from the fact that eye-strain may occur when the error of refraction has been corrected and also that the emmetropes may suffer from eye-strain. It seems to the writer that one should look upon emmetropia as a pathological condition brought about by the effects of eye-strain upon an eye that was originally hyperopic. For which reason it needs all the more careful watching for an emmetropic eye may easily shoot over into the condition known as myopia."

Viewing objects in the distance allows of relaxation of the muscles of accommodation and therefore requires no physical effort, while the use of the eye at close range requires a physical effort to bring about accommodation.

Why would it not be better then, instead of directing the children to look at the ceiling or window, to have the Snellen letters displayed in the school rooms, where all could see them and rest the eyes after a period of close use by attempting to read the letters upon the card? The Snellen letters need not necessarily be used; any visual acuity test object, such as the series of standard broken rings as advocated by Landolt and Jackson, or Wolffberg's modification of test type, etc., could be used.

(7) The position and type of furniture used in the school room is perhaps too largely governed by the rules of discipline and other factors to be within the scope of this discussion.

(8) The suggestion that, in the first two years of school, all writing be upon the blackboard instead of upon paper, called forth the following comments from the Committee on Courses of Study:

"The recommendation would have greater weight if it had suggested that much more (instead of all) of the writing in the lower elementary grades than is usually found should be done upon the blackboards rather than upon paper. There are certainly great advantages in having more of the writing in the lower grades upon blackboards. The suggestion, however, that pupils in grades of the first two years be required to confine all writing to the blackboard, instead of having a portion of it upon paper, is one that your Committee cannot indorse."

Dr. J. N. Rhoades, in a paper read before the Medical Society of Pennsylvania, on "The Blackboard Evil, the Remedy; The Copy-book Evil, the

Remedy," states his views on the relative advantages of the use of the blackboard and the copy-book for the teaching of writing.

He first refers to the glare from the ordinary blackboard and suggests as a remedy "hanging the blackboard out of plumb" to prevent the incident ray from being reflected into the pupils' eyes. He states further that:

"Another important part of the blackboard evil is the absence and ignoring of rules for regulating the size of blackboard writing and drawings. If blackboards must be used, then it is necessary for the letters, drawing and writing put upon them to be made large enough for easy reading by the most distant pupil in the room. Each stroke should exceed the one minute angle as seen from the farthest desk. A table of instructions should be hanging by the side of every blackboard, which should show the size of strokes and writing that could be easily read at five feet, ten feet, twenty feet, and even fifty feet.

"All teachers in medical and scientific schools and, in fact, all demonstrators, whatsoever, should understand and heed this rule. Moreover, the candidates for teachers in the normal schools and in the schools of pedagogy should be thoroughly taught the one-minute-angle law, so that it will be perfectly natural for all teachers to draw individual lines which can be easily seen from any school desk. These strokes of drawings and writings should not barely pass the one-minute-angle test for distance, but should generously err as to size.

"In the whole school curriculum there is nothing more injurious to a child's eyes than copying handwriting from the blackboard. In truth, it is little less than a crime to teach script writing from the board. Take, for example, a child situated forty feet away from the board, and each script letter made on the board for that child to see must have strokes a quarter of an inch wide. The height of the letter to conform to the thickness of the strokes would have to be five or six inches, because, be it understood, the daintiest hair line of the letter must be a quarter of an inch wide or it will not be perceptible to a pupil forty feet away with normal vision, let alone to those whose eyes are not quite normal.

"Penmanship should not be taught from the board. At least, it should not be copied from it. It might be permissible to demonstrate general curves and free-arm movements, but the student should copy them on another board and make the characters of like dimensions.

"To teach handwriting properly I believe it to be absolutely necessary for the copy to be just the size of the intended imitation. The only place for the copy is close to the writing line, indeed so close that the point of the pen and the copy will be seen at one focus, and at the same time. In other words, the "copy line," and the writing line should never be more than *one inch apart*.

"The copy-book evil is just a little less malicious than the blackboard evil. The average copy-book has a "copy line" at the top of its page, and each child is expected to look from its own writing to the "copy line" as it struggles along from letter to letter, curve to curve, angle to angle, and line to line, which it scribbles down the page.

"To recapitulate: I would remove the glare from *each* blackboard. I would forbid the teaching of script from *any* blackboard. I would compel *all* demonstrators to make strokes large enough to be seen by their entire audiences. I would emancipate *every* child from the slavery of the copy-book evil by placing the copy within one inch of his pen."

This discussion of blackboards also brings up the question of the kind of blackboards and the suggestion of A. J. Marshall in the *Illuminating Engineer* (July, 1911) of "Green Glass Blackboards."

"Until comparatively recently most of the blackboards were made from slate and as a rule white chalk was used in the marking on same. Some time ago a firm began experimenting with black glass sheets, the exposed surfaces of which were depolished, which were offered as something to supplant the slate type of 'board' The glass is non-absorbent, foreign matter not being able to enter any further into the slate than the mere depth of the pits (caused by depolishing the exposed chalk-dust writing surface); such being the case the glass is easily kept clean by using an ordinary dampened sponge or 'rubber'. If a lustre is wanted (glazed or polished surfaces for such work should be avoided) a little kerosene oil will suffice. The principal points of excellence of such glass board are: sanitary feature; extraordinarily long life; they will not disintegrate; uniformity of structure; adaptability and perfect writing surface. These glass 'blackboards' have so far been put out solely in black glass and are used with white chalk as formerly."

It is suggested by Mr. Marshall that instead of glass "blackboards" dark green "boards" be used, and that *yellow* instead of white crayon be employed. "It is felt that such a combination would be more desirable from the physiological, psychological and esthetic viewpoints."

Dr. Barth says, "There is no question in my mind but that glass blackboards are the best. Slate and paper blackboards such as are usually used become gray with chalk dust after use, and the white chalk does not show up well."

The name, in the event of the adoption of the above suggestions, had best be changed to "writing board" or similar nomenclature.

The color of the surface and chalk to be used on the writing boards might well receive further attention.

(9, 10 and 11) Relative to the lighting of classrooms, the editor of the *Illuminating Engineer* goes on to say:

"The use of frosted electric lamps is, of course, an improvement over the clear bulb, but even this and the use of amber shades is inadequate to produce a sufficient diffusion and softening of the light. As a general rule, it should be required that some means of diffusion be used which will entirely hide the form of the radiant."

There is no doubt that the intrinsic brilliancy of a bare filament from any source of illumination coming within the field of vision is a real source of irritation and has been proven experimentally to be a decided factor in reduction of the visual acuity, when such source comes within an angle of approximately 26 degrees with the visual axis, increasing with the acuteness of the angle. The same source of illumination having its rays properly diffused and defracted, but still within the visual field may not be as great an irritation, but will still be a disturbing factor and will affect visual acuity within the 26 degree angle. Besides, the means (usually dense diffusing glassware) taken to diffuse and defract the light will considerably reduce its intensity; possibly not to an extent sufficient to affect visual acuity, but enough so that it must be taken into consideration. Of course, the more efficient the enclosing envelope, the less effective a "glare absorbent" it is.

Efficiency, however, can be secured if ceilings are high enough to place the source well above the 26 degree angle, by using properly designed, open, directive reflectors, which sufficiently shield lamps of the bowl frosted type. Sometimes the design of the ceiling beam work, or arches, allows the reflecting units to be placed behind the beams, but usually this will subject the one in charge of the room, or class, to a very strong glare.

A word should be said relative to the suggestion that electric bulbs used for lighting classrooms be made of "frosted glass." It is a well known practical fact that the electric lights with the entire bulb frosted depreciate in life and usefulness much more rapidly than clear bulb or the type known as "bowl frosted."

As it is believed that, as electric lights for use in these places should always be accompanied by some glassware with characteristics desirable for the specific purpose, there should be no occasion to use the entirely unshielded lamp bulb frosted. In the indirect, or semi-indirect systems, as well as in totally enclosing diffusive envelopes, the clear bulb should always be used.

It would seem that with the indirect method of illumination, where all of the light is directed by opaque reflectors, to the ceiling and then diffuse reflected to the plane of illumination, the above mentioned disadvantageous factors due to intrinsic brilliancy of filament, other glare effect, or objectionable shadows, would be non-existent, as there

is almost perfect diffraction and diffusion if properly planned and installed, while the color and intensity of the resulting illumination may be accurately controlled and the source is entirely hidden from view. Investigations by Cravath, Sweet and Rolph all tend to indicate that the visual acuity and ocular comfort are increased as the illumination is made more diffused.

In a paper entitled "Chromatic Aberration and Visual Acuity," (Electrical World, May 11, 1911) Dr. Louis Bell asserts that the elimination of chromatic aberration by use of a nearly monochromatic light source gives an actual increase in visual acuity, or, to use his own words, "the experimental fact certainly is that the mono-chromatic source enables equal acuity to be maintained at an illumination much lower than is necessary in the case of the light of the continuous spectrum." The writers question whether the increased acuity is the result of the elimination of chromatic aberration, or due to another factor, and have the same under investigation.

It may be developed that the color of the light reflected from the ceiling and the walls may be a great factor in the production of eye fatigue on account of the relative bleaching power of different portions of the spectrum on the visual purple of the retina. The action of light upon the visual purple is, according to the latest theory of vision, the active factor in producing visual sensations. (Edridge-Green, Theory of Vision—Lancet, Oct. 2, 1909). Excessive bleaching of this visual substance may mean eye fatigue due to inability to produce rapid enough regeneration. The control of the resultant illumination by proper tinting of reflecting surfaces brings up an attractive solution of this problem, which is being investigated by the writers.

The indirect method of illumination, if properly engineered, seems therefore to possess very desirable characteristics for the school room, where good visual acuity is imperative, and eye-strain or fatigue and depression of visual functions from the effect of glare, or other causes, are to be avoided.

Specular reflection from the surface of the paper or other polished surface is also minimized by the use of the indirect system of illumination, because of the absence of the exposed sources to cause specular images in the polished surfaces.

The so-called semi-indirect system would also have some advantages, as the major portion of the light

should be directed to the ceiling as in the indirect system, while a smaller percentage should be allowed to reach the plane of illumination through diffusing glassware. The units must, however, be carefully designed and placed so that the sources may not become a real cause of difficulty, by allowing too much direct illumination to enter the eye within the "glare angle" referred to above.

Mr. Rolph presented a paper, investigating among other things, the most advantageous proportions of direct and indirect components of illumination, at the 1912 Convention of the Illuminating Engineering Society.

"Summing up the above considerations regarding all the advantages of diffusion due to a high indirect component of the illumination, i. e., elimination of glare from working surfaces, elimination of objectionable shadows and reduction of the brilliancy of the light unit, we may state with reasonable certainty that these advantages are obtained to the most desirable degree when the direct component of the illumination is 15 per cent or less. If the direct component of the illumination is appreciably greater than 15 per cent, the advantages of the indirect component are apt to be seriously reduced. There is undoubtedly some value not far beyond 15 per cent at which the advantages of a high indirect component are so seriously reduced that the comparative inefficiency of this class of lighting is no longer justifiable on engineering grounds."

The coefficient of reflection, or the relative shades or tint of the walls and ceiling of the school room, and its relation to conservation of the eyesight, should also receive the consideration of the decorator and architect.

In the above discussion no reference has been made to a very interesting phase of school illumination by daylight, and the subject should not be dropped without some remarks from this viewpoint being made.

At a New York meeting of the American Association for the Conservation of Vision, the following was given consideration:

"One direction in which the Association can perform useful service is indicated by recently published statistics showing an increase of defective vision among pupils of the public schools, the proportion of pupils thus afflicted increasing as the children advance in the grades. Here undoubtedly is evidence of school work performed under conditions harmful to the eyes, which should be corrected. In some instances it will be perhaps sufficient to call attention to a certain regulation of the window blinds at certain hours of the day. In others, the intervention of architects may be necessary to fit school buildings in the matter of lighting for the purpose for which they are

occupied. Usually the trouble is that there is insufficient window space, but sometimes there have been found schools with too many windows in a room, giving a cross-light very trying to the eyes, or a light from the front as the pupils sit, whereas by preference it should come from the side. Changing the position of desks often is sufficient to reduce danger to children's eyesight; now and then only is there necessity for changing windows. In the case of new school buildings the plans should be carefully supervised with respect to lighting arrangements by competent persons."

The use of prismatic glass or other prepared types of window glass, such as daylight prisms, may sometimes be used to re-direct the daylight rays when they would otherwise enter the school room at inefficient angles; or to project them into distant corners and faraway sides of the enclosures.

A few words on the factor of efficiency may be apropos. It would be a grave error in a case as important as the conservation of the eye-sight of our future nation to sacrifice beneficial, physiological or psychological results for high efficiency or financial gain, and it must be appreciated that any of the systems which keep the sources well screened from or out of the range of the eye may take more wattage to secure a definite result in foot-candles on the plane of illumination. Therefore greatest efficiency compatible with results desired is all that should be expected or demanded, and this can always be secured by the submission of the problem to a competent illuminating engineer.

This label has been adopted by the Board of Education of New York to be pasted in school books:

READ THIS FREQUENTLY.

1. Take care of your sight; upon it depends much of your safety and success in life.
2. Always hold your head up when you read.
3. Hold your book fourteen inches from your face.
4. Be sure that the light is clear and good.
5. Never read in the twilight; in a moving car; or in a reclining position.
6. Never read with the sun shining directly on the book.
7. Never face the light in reading.
8. Let the light come from behind you or over your left shoulder.
9. Avoid books or papers printed indistinctly or in small type.
10. Rest your eyes frequently by looking away from the book.
11. Cleanse your eyes night and morning with pure water.
12. Never rub your eyes with your hands, or an unclean towel, handkerchief or cloth.

THE AUSCULTATORY BLOOD-PRESSURE PHENOMENON.*

BY LOUIS M. WARFIELD, M. D.,
MILWAUKEE.

With our increasing knowledge of the circulatory mechanism it has become more and more essential to have instruments of precision which will enable physicians at the bedside to measure the work of the heart. During the past few years many new instruments have been devised and some new methods have been recommended which have made it possible to determine with increasing accuracy the real values for blood-pressure.

Graphic methods for determining blood-pressure in man began with the attempt of K. Vierordt in 1855 to measure the blood-pressure by placing weights on the radial pulse until this was obliterated. The first useful instrument, however, was devised by Marey in 1876. He placed the hand in a closed vessel containing water, connected this by tubing with a bottle for raising the pressure and by a second tube with a tambour and a lever for recording the size of the pulse waves. He maintained that when pressure on the hand was made, the point where oscillations of the lever ceased was the maximal pressure, the point where the oscillations of the recording lever was greatest was the minimal pressure. This pioneer work was practically forgotten for twenty-five years.

It was not until 1887 that von Basch devised an instrument which was used to some extent. This instrument recorded only maximum pressure. It consisted of a small rubber bulb filled with water communicating with a mercury manometer. The bulb was pressed on the radial artery until the pulse below the artery was obliterated and the pressure then was read off on the column of mercury. He later substituted a spring manometer for the mercury column. Potain modified the apparatus by using air in the bulb with an aneroid barometer for recording the pressure. These instruments were necessarily somewhat inaccurate. Moreover, they did not record the diastolic pressure.

In 1896 and 1897 further attempts were made to record blood-pressure by the introduction of a flat rubber bag encased in some unyielding material which was placed around the upper arm and blown up by air pressure. Riva-Rocci used silk,

while Hill and Barnard used leather. The latter used a bulb or Davidson syringe to force air into the cuff around the arm and they palpated the radial artery at the wrist noting the point of return of the pulse after compression of the upper arm and reading the pressure on a column of mercury in a tube. Except that the width of the cuff has been increased from 5cm to 12cm, this is the general principle upon which all the blood pressure instruments are based. Recent modifications have introduced a dial recorder the principle of which is the expansion of air in a chamber between two thin metal discs. As these must be calibrated with a mercury instrument the statement above holds good.

The cuff was made 12 cm in length because it was shown by von Recklinghausen that with a narrow cuff much pressure was dissipated in compressing the tissues. Janeway has shown that with the use of the wide cuff accurate values are obtained independently of the amount of muscle and fat around the brachial artery. In other words if an actual systolic blood-pressure of 140 mm Hg. is present in two individuals, the one with a thin arm, the other with a thick arm, the instrument will record these pressures the same when the wide arm band is used.

Our present nomenclature includes three terms which will be defined and briefly discussed.

1. Systolic or maximum pressure is the maximum force exerted by the systole of the heart. It is the intraventricular pressure. The maximum pressure measured in the brachial artery tends to approximate the intracardiac pressure and the lateral pressure in the aorta. The maximum pressure then measures the force exerted by the heart in order to overcome the minimal pressure in the aorta plus the force necessary to carry on the circulation in equilibrium. At the present time there are three methods of measuring this systolic pressure. (a) By palpating the return of the pulse in the radial artery after compression of the upper arm, (b) by using a drum and recording lever and noting the onset of sudden increase in amplitude of the lever's oscillations, (c) by ausculting over the brachial artery just below the cuff and noting the first sound heard when the pressure in the cuff is gradually lowered.

2. Diastolic or minimum pressure is the pressure in the smallest arterioles and measures the peripheral resistance. As the blood goes farther

*Read at the Sixty-sixth Annual Meeting of the State Medical Society of Wisconsin, Wausau, May 23, 1912.

and farther from the heart into the small arterioles the systolic tends to approach the diastolic pressure. The diastolic pressure varies but little in all the large arteries. A high peripheral resistance therefore means a high diastolic pressure, a low peripheral resistance means low diastolic pressure. In other words, vaso-constriction raises the diastolic pressure while vaso-dilatation lowers it.

3. The pulse pressure is the difference between the systolic and diastolic pressures and represents the actual head of pressure driving the blood toward the periphery.

Altogether too little attention is paid to the determination of a diastolic and pulse pressure. The difficulty of accurately measuring diastolic pressure probably has led to this neglect. There are in use four methods of measuring diastolic pressure but only one, or at most two, are at all accurate. (a) By palpating the radial pulse and noting the maximum wave felt. This is inaccurate and difficult to measure. (b) Noting the maximum oscillation of the mercury column or, in a dial instrument, the maximum fling of the lever. (c) By recording pulsations on a revolving drum and noting the point of maximum oscillation of the tambour lever (Erlanger's instrument). (d) By auscultating over the brachial artery below the cuff and noting the point when all sound disappears as the pressure is reduced. Unfortunately the most accurate method is practically impossible for general bedside work.

We can not determine the pulse pressure unless we have measured the diastolic pressure. It is not so much the knowledge of the pressure under which an organ receives its blood as from the knowledge of the amount of blood an organ receives per unit of time, that we are enabled to judge of functional capacity. It is, therefore, important to know the velocity of the blood. Now there is within limits a very definite relationship between pulse pressure and velocity. Within these limits, theoretical as well as experimental, the velocity of flow is equal to the pulse pressure times the pulse rate. This must not be literally interpreted in all cases, however, as there are many factors which vitiate this simple formula. In order to calculate accurately the absolute velocity of blood flow knowing the two factors pulse rate and pulse pressure, it is necessary to know at least four constants which themselves vary at times, but in any given regularly beating heart they are factors which give negligible

values. These are: 1. Rate of systolic output. 2. Rate of flow from arteries into veins. 3. Distensibility of human arteries at different pressures. 4. The amount of blood in the systemic arteries under various conditions. In general then, a diminution of the pulse pressure means lessened velocity of blood flow. This has occurred with pallor, clammy perspiration, weak and rapid pulse—in short, syncope.

The maximum pressure may be high, but if the minimum is only proportionately high and the pulse pressure is increased over the normal, the circulatory system is better able to carry on the circulation than where the minimum approaches the maximum and pulse pressure is low. In a failing heart the maximum approaches the minimum until the pulse pressure is nil, when the heart ceases to carry on the circulation, there is not force enough to overcome the minimal pressure in the aorta. It is therefore believed that an observation of the blood pressure which records only systolic pressure in but a part of an observation.

In 1905 Korotkow discovered that by placing the bell of a stethoscope over the brachial artery from one to two cm. below the cuff, he could hear very characteristic sounds when the pressure was released. He noted three sounds. Further observations by Ettinger, Fischer and others have shown that normally there are five so-called phases which are as follows: The first phase is a more or less sharp, clear tone which corresponds to the first pulse wave to get under the cuff. The second phase is this tone more or less clear plus a series of murmurs. The third phase is a transition to a loud, sharp, clear tone which suddenly or gradually becomes dull (fourth phase) and finally ceases altogether, no sound is heard (fifth phase).

It is generally accepted that all the sounds are produced in the part of the artery below the cuff. It is absolutely essential that one listen as near the lower edge of the cuff as possible and directly over the brachial artery. The first sound is thought to be produced by the small amount of blood which rushes under the cuff at considerable velocity just at the point when the intra-arterial pressure is greater than the extra-arterial pressure produced by the air bag around the arm. As the pressure is now gradually lowered there is more and more blood passing through under the cuff at every systole. As the artery below the cuff is collapsed and greater in diameter than the compressed

part of the artery, whorls are set up which produce the second murmur and sound phase. The third phase is the loudest sound and is probably due to the full expansion of the artery below the cuff, the artery under the cuff and the part below the cuff becoming of equal size at every systole. As more and more blood now enters, the artery below the cuff becomes more of normal size and the sound becomes dull. When there is no pressure exerted on the artery below the cuff the whole vessel is normal in size and no sound is heard, the fifth phase.

It is held that the first sound measures accurately systolic pressure. This can be readily seen on records which we have made with the Erlanger instrument. Korotkow found that by the auscultatory method the systolic pressure was from 10-12mm higher than by the palpatory method. Gittings in a study of 63 cases found in 61 that the average systolic pressure was 16-7mm higher by the auscultatory method. My results show values of from 8-14mm and they show the coincidence of systolic pressure with the appearance of the first phase.

All five phases are not by any means always to be differentiated. The tones are dependent on three factors, strength of the heart beat, the size of the artery, and the elasticity of the artery. The third tone normally is the loudest. The most intense sound, almost ear-splitting, was heard over a large, highly elastic artery in a subject who had aortic insufficiency and an enormously hypertrophied heart.

It is generally agreed that a loud, long, clear third phase indicates strength in the heart, a weak third phase shows weakness and a disappearance of this phase indicates great weakness. The latter is found in decompensated hearts.

A strong third phase may show a powerful heart provided that the artery is not sclerosed. We find that in arteriosclerosis even with only a fairly strong heart that there is a good third phase. A weak heart pumping blood into a somewhat rigid artery may then produce as loud a sound as a strong heart pumping blood into a normal elastic artery.

Most observers are agreed that the disappearance of all sound measures the diastolic pressure, in fact this point seems to be universally used. It was proved by Erlanger with an artificial circulation schema that diastolic pressure occurred at

the point of maximum oscillation of the lever in his instrument. He had previously shown the absolute accuracy of the instrument. While taking blood pressures with the auscultatory method it was noticed by me that more often than not the disappearance of sound was below the point of maximal oscillation of the mercury or of the dial hand. This led to an investigation of this point. One of the tambours on the Hirschfelder attachment to the Erlanger instrument was fitted with a pipette bulb and made to write on the drum just above the brachial pulse lever. As the pressure was reduced and the sounds were heard slight pressure on the bulb made a mark on the revolving drum at the point where the sound was heard. It soon became evident that the point of maximum oscillation by the method of continuous escape-ment did not coincide with the disappearance of sound but that in practically all cases it was below maximum oscillation. In some cases the difference amounted to 12mm, in other cases, especially when the fourth phase was very short, there was a difference of only 2 to 4mm, figures which are negligible. However, my records seem to show that it is not correct to take the fifth phase as the point for determining diastolic pressure. Just where that point is, and just how we can determine the exact diastolic with the accuracy with which we can determine the systolic, has not been definitely found as yet. Further clinical records and animal experiments are now in progress and it is hoped that this important point may before long be determined.

There are cases when the transition from the third phase to the fifth is so sudden that the fifth phase can be used as the point of diastolic pressure. Certainly this point is practically always easily determined and for the present it should be used to read the diastolic pressure.

In Erlanger's original experiments with his artificial circulation schema he noted the fact that at the point of maximum oscillation of the tambour lever, the artery expanded to its fullest extent and during the diastole the walls just met. This produced a clicking sound which could be easily heard when the ear was placed near the strip of artery. This is interpreted by us to be confirmatory of the point here made.

In conclusion, the following points seem to be established:

The auscultatory method of determining blood

pressure is the best and simplest and most accurate method for determining the systolic pressure. The third sound is normally the loudest, and a loud, long third sound means functional heart strength. Failure or weakness of the third sound indicates a weak heart.

Irregularities in the force of the heart beats are more easily discovered by the auscultatory blood pressure method.

The measurement of diastolic pressure is equally as important as the measurement of systolic pressure.

The diastolic pressure is not usually at the point of disappearance of all sound, the fifth phase.

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DISCUSSION.

DR. A. J. PATEK, Milwaukee: Mr. President. There is little or nothing that I can say that may be of value after hearing this excellent presentation of the subject as given us by Dr. Warfield. Any instrument of precision that will enable us more easily to recognize variations in the condition of the heart, is welcome. Unfortunately, some instruments of precision are complicated, and the best one, the tambour of Erlanger, which Dr. Warfield has also used, is not at our disposal. The auscultatory method is, however, at our disposal, and possibly greater familiarity with it will enable us to recognize conditions a little more accurately than we have heretofore been able to do.

The value of peripheral resistance is, I think, too little recognized by all of us. Most of us use the sphygmomanometer merely for systolic pressure reading. The value of that is one-sided; it does not give both sides of the argument, and leaves us in the dark in many cases as to the actual heart value that we are endeavoring to ascertain.

The instrument that will enable us to put a proper value upon the heart's functioning capacity, is going to be the instrument of the future. We read daily of men presumably in excellent health, who, themselves ignorant of any organic illness, suddenly fall dead. This is not because they have been concealing symptoms, or have

refused to yield to certain symptoms they may have known to exist, but because they themselves in a great many cases were probably unaware of an actual organic diseased condition of the heart. Medical advisers and insurance examiners have frequently passed upon such hearts and called them normal—called these individuals excellent risks from the standpoint of insurance companies; and yet it was later proven beyond a doubt that these hearts were badly diseased at the time. If this instrument of precision, showing the auscultatory phenomena of blood pressure, will enable us to obtain better information as to the actual functioning capacity and value of the heart's action, by obtaining the relative values of systolic and diastolic pressure and interpreting them properly, we will have gone a great way towards solving some questions of cardiac disease. This is especially important because in no other disease with which we are confronted does prophylaxis play so important a part.

L. M. WARFIELD, Milwaukee (Closing): There are just one or two practical points that I want to call attention to, which could not very well be brought out in the paper which I read. One of them is the care in selecting the bell of the stethoscope. The bell of the stethoscope should not be more than 20 mm across. One therefore cannot use the ordinary Bowles stethoscope in making such a determination as this, because one cannot put the bell of the stethoscope at the bend of the elbow. The cuff being in this part of the arm the bell of the stethoscope must be below the cuff and above the actual bend of the elbow. So that the bell of the stethoscope must not be so large as to allow air space and so vitiate the sounds of the heart.

Another point is that this method is absolutely impossible where there is any great amount of noise. In a perfectly silent room I believe it is absolutely accurate, but you cannot do it in a noisy place.

Another point is, be careful in placing the bell of the stethoscope directly over the brachial artery. It is well to palpate the brachial artery, making a mark with a pencil where the artery is, and then when you have compressed the arm, put your stethoscope over that point, so that you may be sure you are over the brachial artery.

Again, be careful to lay your stethoscope flat on the arm, so that you do not compress the artery above with the upper end of the bell of the stethoscope. Otherwise you get a sound which you have yourself produced by compression of the artery by the upper end of the bell of the stethoscope.

I feel that this method is the most accurate that can be used. Its simplicity recommends it; and with the numerous blood pressure instruments in the market today, in connection with which this pressure auscultatory method can be used, I feel that we have at last found a means of measuring both the systolic and diastolic pressure, giving us, therefore the pulse pressure, and giving us very much more information about the functional capacity of the heart as clinicians and practitioners, than we have ever been able to find before.

DR. CURRENS: What do you consider the normal registration of the systolic beat?

DR. WARFIELD: That depends on the age of the individual. I should say that the normal systolic pres-

sure in a man between 20 and 30 was between 125 and 130 mm of mercury, with a diastolic pressure from 25 to 35 mm below that, giving a pulse pressure of that amount.

Q. Did you ever notice a patient that had a difference in the two arms?

A. Yes.

Q. How much?

A. I have noticed a difference in certain cases of aneurism, where there is an involvement of the brachial artery. The difference may be as much as a hundred mm.

FEVER, WITH OBSCURE OR ABSENT PHYSICAL FINDINGS.*

BY EDWARD EVANS, M. D.,

LA CROSSE.

I suppose I need no apology for saying to you, that I have absolutely nothing either original or scientific to offer.

Two years ago in an endeavor to popularize before this society a very common trouble seldom recognized and often improperly treated, (sacroiliac strain), I received such a favorable reception by you that I felt emboldened to bring to you again today a subject perhaps also worthy the general practitioner's thoughtful consideration.

If I can succeed in calling forth a good discussion and in bringing some suggestions to you that will make you do some thinking when you get home, I shall have accomplished what I started out to do.

The subject of fever concerns us more commonly in general practice, than any other matter. The class of cases where we get fever and are then puzzled as to the cause, is more common than any other class of cases and we frequently fail to make a scientific diagnosis.

By means of this chart, No. 1, I have endeavored to show that every living cell contains within it some fever-producing substance. If you will introduce into that cell some body that produces cell destruction, you are going to set free those fever-producing bodies which will be thrown into the general circulation. Those fever-producing substances can be classed, perhaps, under the heads indicated here, with the pointing arrow going towards the cell:—Bacteria, protozoa, parasites, heat rays, hemolytic agents and other cytolytic agents.

These set free the fever-producing substances and give us the resulting phenomenon of fever.

If this is true, we get fever resulting from one of three causes: 1st, absorption of foreign material, 2nd, absorption of native material, 3rd, unclassified fevers. And I present a chart of those conditions that produce those various factors that cause this condition of fever.

I want to draw your attention to a few of the causes of unrecognized fever, and then dwell for a few moments on some charts that I hope will excite discussion later.

I have put down on the next chart some of the irregular causes of fever; and first, exertion. It occurred to me yesterday while Dr. Pottenger was talking about his cases of tuberculosis, that we very often say that patients must be kept quiet, because exercise causes autointoxication. Now, this is not always the fever we get after exertion, because it has been found after exertion, especially rather marked exertion, e. g., running or walking rapidly, the temperature may be and frequently is raised up to as high as 103°. Again, Hale White, says he can go into a hot bath for 14 minutes and have a mouth temperature of 103.2° immediately thereafter.

We know that external temperature does more or less affect the body temperature. It has been an observation made by a good many clinicians that typhoid fever temperature, for instance, appears to run a higher course in hot weather than in cold weather, and along this same class of conditions produced by heat is that of sunstroke.

I have here a remarkable chart which I will pass around, which shows the case of a man who had sunstroke; his temperature ran up to 108.5°; here I suppose the trouble is a disturbance of the thermo-taxic mechanism.

Then again chemicals may produce fever. A case is recorded by Hilton Fagg of two sisters who were sent to the hospital with what was supposed to be scarlet fever, with a temperature of 104°; but it was found that their fever was not due to scarlet fever, but to eating belladonna berries.

There are one or two chemical substances which injected into rabbits produce a marked elevation of temperature.

Children are sometimes easily disturbed in their thermic mechanism, through overfeeding on carbohydrates, which may produce high fever.

If my first proposition is true, that the intro-

*From the stenographic notes of an address illustrated by numerous charts and diagrams given at the Sixty-sixth Annual Meeting of the State Medical Society of Wisconsin, Wausau, May 23, 1913.

duction of outside material upsetting cell metabolism or causing cell destruction, causes fever, it is easy to conceive that such a thing as overfeeding may cause fever. Davis of England records a temperature of 104° from this cause. Osler mentions a case where the mother was worried, the child's education ruined, and a nurse kept on constant service with a thermometer, where by breaking the thermometer, discharging the nurse, and regulating the diet, the child was cured.

Then we have those disturbances of or injuries to the nervous system producing febrile conditions, such as fracture of the spine, injury of the corpus striatum, cerebral softening and tumor, where the temperature has gone up as high as 108°. Also cases of delirium tremens, chorea, convulsions and hysteria—these cases are well recognized as conditions sometimes causing fever.

I show a remarkable chart which I leave to the scientists to interpret. This man was sent to the hospital with a temperature of 108.5°, which soon became 110° (rectal), and I found the interne pumping out his stomach and going through all sorts of trouble with him, because he said he had taken an overdose of opium; but he did not have symptoms of opium poisoning. But take the temperature as you would, he had a temperature of 110° for a few hours. Within a day or two it subsided and he was sent out of town. He went to Sparta and tried to play some tricks up there.

Then we have blood conditions in which we sometimes get fever as in Hodgkin's disease and pernicious anemia, with temperature running quite high. I had a patient recently suffering from pernicious anemia whose temperature ran up higher than 102°.

Then we have that class of cases recently brought to our attention by the laboratory worker and the pediatricist, of infections of the urinary tract, especially in children, by the colon bacillus, where we may get very high temperature and be puzzled for a long time, unless we use proper laboratory methods.

Again, we have the condition of malignant disease of the liver, both sclerosis of the liver and cancer of the liver and also syphilis where we may and do get quite high temperature; and it is to draw your attention to one of those cases that I present this chart.

This case I know to be syphilis. When called to see him I found him with a temperature of 105°

along in the morning; he had a chill in the afternoon; he had a typical scarlet fever rash, confined, however, to the body and not extending to the neck or to the extremities; and a temperature of 105°. The fever went down the next morning, and the rash had entirely disappeared; he was sitting up; and I did not see him for a few days when he had fever again. The Widal test was negative, and the blood count showed nothing wrong. He went on in this way with irregular intermittent fever; knowing he had syphilis I began giving him hypodermic injections of mercury at this point; he went on fairly well for a few days, and then his temperature jumped up. We had another negative Widal, and I sent him to the hospital and treated him actively with mercury and iodide of potash. All the time he was in the hospital his blood count would give no information. He developed a slight tenderness of the gall bladder area, which looked like a cholecystitis, and later a little ascites, and then a few days later the whole liver became enlarged. I ruled out the question of cystitis of the gall bladder, for these reasons: I knew that he had had syphilis; and that syphilis of the liver quite frequently shows fever; there was no blood change that we would expect to find with cholecystitis, giving such marked evidence of trouble. The Wasserman and Noguchi blood reactions were negative. Leutin gives an active reaction (I show you a watercolor of it, with the control).

The other two cases I wish to bring to your attention and whose temperature charts I show, are cases that often puzzle the general practitioner—two cases of malignant endocarditis. This is a case that I had under my own charge from the time it began; and we went carefully over him with various consultants to try to find some cause for his fever and repeated chills. There was nothing in the blood picture, in his history, in his sinuses, heart or anywhere, that we could find, to account for the repeated chills he was having with heavy sweats. At this stage Dr. Evans of Madison saw him with me. A differential blood count showed that while the patient had only 5,000 white corpuscles, 90% of them were polynuclear. On culture he found a streptococcus, which Rose now says we find oftenest in this condition of malignant endocarditis. But we could find no murmur. He went on going from bad to worse. About this stage he got a temporary embolus in

his right arm and a little later got two or three of those patches which Osler speaks of as pathognomonic, those little ephemeral nodules in his arm. Dr. Sippy, of Chicago, saw him in consultation and discovered a soft blowing aortic murmur. The patient died within six weeks, four months from the onset of the illness. His heart is in the museum at Madison, showing vegetations larger than the end of my little finger on the aortic valves and spreading down along the wall onto the mitral valves.

The other case is one illustrating the same point. She was not a case of mine. When I saw her in consultation we made a diagnosis of malignant endocarditis. There were no Widal findings or tuberculosis findings, and the diagnosis of malignant endocarditis was made by exclusion. She had been sick two months before she came to the hospital, and was in the hospital over two months, and did not die for six weeks after she went out. This diagnosis was complicated by the fact that the husband had gonorrhoea, and while she was at the hospital, he was treated for acute gonorrhoea. But I could not find any indications in the patient pointing toward any trouble of a gonorrhoeal character.

When we get fever we have to look for these conditions in the order of their importance: first, pus. This is the common cause of fever always. We must make a thorough search for it before we conclude it is not present. Look for deep-seated pus if you do not find it elsewhere. If the patient has had pneumonia look for the seat of pus between the lobes of the lung, or a small encysted empyema; then around the gall bladder tracts, deep down.

I saw an abscess the other day in an obscure case. The surgeon operated for gall stones but did not find any; but found a rather large abscess of the lesser peritoneal cavity. When we get through making an examination of the deeper parts of the body, look for what the general practitioner does not look for carefully enough, nor often enough, that is, pus around the teeth and in the tonsils, and especially in the accessory sinuses. I am sure we do not look for these nearly enough. After that look for pus in the pelvis.

A few days ago I discharged a patient from the hospital, who, just after her marriage in the south four years ago was taken with fever, and they told her she had malaria. She was 7 weeks in bed with continuous fever, and still they talked about ma-

laria. She has not been well since, and I took out a diseased appendix and cured her; and all these years that woman has gone on in a miserable condition. She says she feels better than she has in all those years.

We should look for malignant endocarditis oftener than we do. Then the ordinary slight infections should be given more respectful consideration. As Dr. Pottenger emphasized so strongly yesterday, we must look for tuberculosis when we get a little fever and a little running down, a condition we cannot account for otherwise. Then we must look for typhoid fever and perhaps influenza.

Now, this all leads up to this point, that it is not enough for the practitioner to follow mere routine. We must get out of the rut that a great many of us have got into since our graduation, 5, 10, or 20 years ago. Many have forgotten *how* to employ the five senses God gave us, and that the old clinicians used so thoroughly; and often we have not perfected ourselves in the use of the newer laboratory methods. It is up to us if we want to be successful to do both of those things. We have to use our senses as deliberately and have them as well trained as did the old clinicians, and in addition we must make use of all the new methods that the laboratory presents. If we cannot do this ourselves we must associate with us the younger men, who are better trained, and who are often able and anxious to get an opportunity of backing their newer knowledge and fresher enthusiasm against our experience and judgment—thus making possible good team work.

DISCUSSION.

DR. A. J. PATEK, Milwaukee: As was to be expected, Dr. Evans did not disappoint us. He usually gives us something worth while, and has done so this afternoon. I have had but a limited opportunity to examine his charts and so have given the matter under discussion scant consideration.

Dr. Evans has brought out well and very forcibly some of the factors that enter into the causation of fever. I wish first to emphasize this one point: it requires the merest trifle of skill and brains to take temperatures. In the first place it requires an accurate thermometer. Recording a temperature of a degree more or less may make no difference when the temperature runs up to 103° and 104°; but when the temperature runs only to 99.5° or 100°, this small variation is of the greatest importance. It is the conditions calling forth these slight variations that Dr. Evans has here called upon us to recognize.

A case in point came very forcibly to mind a week or so ago. A tuberculous patient, an intelligent man who had gone the rounds of various sanatoria and knew a

great deal about his condition, was in a Milwaukee hospital for a short stay. The nurse took his temperature one evening and told him that the thermometer recorded 97°. He knew better. He took his own temperature by rectum and proved that it was 102°. The nurse had no brains, but the patient himself had. If temperatures are taken properly, we will in many cases discover fever of low degree where it would hardly be suspected. At most tuberculosis sanatoria, where mouth temperatures are taken, the thermometer is retained 20 minutes. The so-called "one minute" thermometer will not register in the time stated. So I say, it is of first importance to take temperature properly.

Of the cases here recorded, I am most interested in those in which there has been a slight elevation of only a degree or two, with no apparent cause. I would classify these, as to their prevalence and importance, about as Dr. Evans has: malignant endocarditis, tuberculosis, syphilis, pyelitis, bacilluria. But we have all encountered instances of fever for which we could find no cause. I remember very well a patient whom I had under observation for six or eight weeks. She had a temperature of a degree to a degree and a half without apparent cause. She had a slight heart murmur, and naturally, my first thought was that hers might be a case of malignant endocarditis; but she was so entirely without objective and subjective signs of endocarditis, and her fever did not run the expected course, that I looked for some other concealed infection, bearing in mind the possibility of syphilis, because in some cases of syphilis fever of slight degree is the only apparent symptom. After about three weeks an ulcer of the pharynx developed, and the ulcer and fever promptly disappeared upon the administration of the proper remedy.

Pyelitis in children is not at all uncommon. It was thought to be uncommon when every high fever, coming on suddenly, with prostration, was considered due to intestinal toxemia, and no urinalysis was made.

The day has gone by when we must consider fever a disease; the day has gone by when we can allow ourselves to argue that because a patient is found to have a temperature of 102° or 103°, the proper conception of our duty lies in giving some remedy to reduce the fever. Cryptogenetic infections still exist, and failure to discover their causes will continue to be the experience of all of us, but the day has gone by when any other than a thorough, painstaking analysis of every patient with temperature can be accepted. The cases which Dr. Evans has cited, and the outline he has made of individual instances in which we may expect to find some degree of fever, will help us greatly whenever we are confronted with such obscure affections.

DR. JOSEPH F. SMITH, Wausau: Dr. Evans in his letter to me asked me to dwell particularly upon some considerations underlying the phenomenon of fever. As I have had no opportunity to see the charts before today, and inasmuch as the paper as presented is more or less a presentation of individual cases, it seems to me rather inappropriate to go into the matter of the theoretical consideration of the causation of fever at this time. It seems to me it would be rather more practical to consider some of the clinical aspects presented by some of

these very interesting cases that he has detailed, than to spend any time in the discussion of the theoretical considerations.

I will mention just two or three facts in regard to fever that might have a bearing upon these cases, as well as upon any other cases of fever, and one of these facts is the following: Fever is characterized by an increase in temperature, a change in metabolic processes, and less constancy of temperature. This fact is pointed out by Krehl in his work on Clinical Pathology. Now, we know that the normal temperature is subject to certain diurnal variations. Pottenger called attention to the fact that daily temperature in a normal individual varies from 1.4° to 1.5°. Now, the fever patient is characterized by less constancy in the diurnal variation. The individual with fever has a greater variation in his temperature range than the individual with a normal temperature. This normal temperature range is maintained by a very complicated mechanism, the exact nature of which is very little understood, from what I can gather of the work that has been done in this line. But in a general way it may be said to depend upon two conditions: first, physical processes, such as the changes in the superficial circulation; second, chemical conditions such as changes in the body metabolism. We know that when an individual is exposed to cold the superficial blood vessels contract and less heat is radiated from the body, because of the less amount of blood flowing in the superficial vessels. Moreover, the loss of heat due to evaporation is diminished. In these ways the heat of the body is conserved and normal temperature maintained.

At the same time there are certain chemical conditions that come into play which are concerned in the intricate metabolic processes which have to do with the combustion of non-nitrogenous foods which play a part in the production of heat.

Increase of temperature is caused; first, by anything that interferes with heat loss, thus raising the body temperature; secondly, anything that raises the heat production will have the tendency, other conditions being the same, to raise the body temperature. Dr. Evans pointed out the fact that the temperature of an individual can be raised to 103° by placing him in a hot bath. That is true. We know that normal individuals placed in a hot bath or in hot vapor, where the radiation of heat is markedly interfered with, will suffer interference with heat loss, and there will result a rise in temperature. We also know, on the other hand, that individuals may be subjected to the most strenuous kind of exertion, such as mountain climbing, without any increase in temperature, because in this case while the heat production is increased the heat loss is not interfered with, and the one compensates the other.

High temperature in fever then is due to the disproportion between heat production and heat loss. We may have either an increased production without an increase in heat loss, or have a diminished heat loss without diminished heat production.

In general it has been proven that in fever, heat production is increased, especially during a chill or when the temperature rises; and the amount of increase varies all the way from 10 to 60%, the average increase in heat production being given as from 20 to 30%.

There is a small group of cases in which no increased heat production can be demonstrated. In still other cases of high fever there is a low heat production and yet fever is present, in spite of the fact that we have a low heat production, probably due to the interference with the heat loss. Such cases come under the class of patients in collapse.

There is still another group of cases in which no reason can be assigned for the slight increase in the production of heat.

It has also been shown experimentally that the heat loss is least during the rise of fever. During the increase of the fever the heat loss is actually diminished. At the height of the fever the heat loss is increased. Krehl sums up the situation by saying that the rise of temperature in fever seems to be due to some disturbance of the mechanism of heat regulation. It has been shown that the heat production in fever occurs mainly in the muscles and larger glands. For instance, such glands as the liver, kidneys, and some of the larger glands can be shown experimentally during the rise in the fever to have higher temperature than other portions of the body.

So that it seems to me after going over this subject somewhat superficially, that the whole matter of the mechanism of fever is still somewhat obscure, and a great deal of work will have to be done upon metabolism and other phenomena associated with it before this matter will be elucidated.

DR. EDWARD EVANS, La Crosse (Closing): Dr. Dearholt said today in talking about public health: "Nowadays both locality and distance are obliterated." It would be well for us not to forget that. The chart I sent around with the Noguchi test on it, shows that this young man was dying in a small town, of cerebral syphilis, 20 years after his attack, and just because he was in a small town the doctor forgot to give him treatment, although the diagnosis was carried around on him and could be made without any difficulty; it did not need a microscope to make the diagnosis. Let us not forget this.

Then about syphilitic fever: We are all acquainted with the fever that comes on with the onset of the secondaries; but we should remember that a fever may develop before the secondaries. Osler records a case where four weeks before the secondaries a woman ran a temperature of 101° to 104.5°; not only that but in the tertiary condition the fever is relatively common. There are many cases on record. I was surprised to find that many cases are recorded of syphilitic fever, and many of them occurring with symptoms in the liver region have been opened for cholecystitis, but nothing wrong found with the gall bladder. This is one of the points that helped me to make a differential diagnosis in the case referred to. Sydney Phillips, of England, reports a case that in the 9th year after infection ran a fever for 8 months, and was cured in a few days by mercury and iodides. In one of Osler's cases the fever occurred 29 years after infection; and so on. The fever is of all sorts of types. You get continued, remittent, or inter-mittent fever. The fever need not deceive you. The point is, if it is an obscure case go into the history. And if there is one thing that I would like to impress on you, it is this, that if you do not know how to do it, learn

how to take a history. I heard Dr. Murphy say not long ago, that after an experience of 20 years in hospitals with internes, he never saw an interne at the beginning of his service that knew how to take a history—I never have either. (Applause.)

TUBERCULOSIS COLUMN.

Under the Auspices of the Committee on Prevention of Tuberculosis of the State Medical Society of Wisconsin.

M. P. Ravenel, Madison; G. E. Seaman, Milwaukee; C. A. Harper, Madison; J. M. Beffel, Milwaukee; T. H. Hay, Stevens Point.

There follows an extract from a report of the Wisconsin Anti-Tuberculosis Association printed in the July, 1911, issue of this Journal. The reason for reprinting at this time is that not nearly so much attention has been given to this phase of the subject as it deserves.

TREATMENT: The Wisconsin Anti-Tuberculosis Association has concerned itself very little with the treatment of individual cases of tuberculosis, recognizing the fact that this is more particularly a matter of concern to the patient and his friends than to society in general. The medical organizations of the state may well take up a study of the phase of the problem which is indicated by the following table, not alone because of its public importance, but because of its bearing upon purely selfish class interests. The fact that one patient may visit nine separate physicians in the course of his disease is of little interest except to indicate that the patient has a poorly developed power of discrimination. When, however, nearly one-half discharge or fail to return to their physicians, the subject becomes one of economic interest to the physician himself. Patients going from one physician to another do so usually without giving or gaining much benefit. If the physician has made a conscientious study in the first sitting or two, he has not usually been paid for his time. If, on the other hand, the patient pays full value for one study after another, he ought to be unnecessarily duplicating his expense and have some means of knowing it. If the regulation of quacks, vending of patent nostrums, licensing of practitioners, etc., are responsibilities of the organized profession, how much more so is the correction of the condition set forth here.

Granting that the situation is primarily due to the ignorance of patients, who, except the organized medical profession, can, without offense, set

a standard of medical service and train the public to a comprehension of that standard?

NUMBER OF PHYSICIANS CONSULTED BY TUBERCULOSIS

PATIENTS.

	1	2	3	4	5	6	7	8	9	Total
Oshkosh ...	78	65	23	...	...	...	...	...	...	166
La Crosse...	49	37	19	...	...	...	...	...	...	105
Dunn Co...	143	65	17	6	...	...	...	...	...	231
Milwaukee .	354	204	95	42	24	8	6	5	3	741
Wausau ...	33	17	7	...	...	...	...	...	...	57
TOTAL	657	388	161	48	24	8	6	5	3	1,300

Homeopathy gained its vogue, not through the chicanery of its practitioners, but because the public which employed the old time "Allopath" was wise enough to know that there was no omnipresent need for the ill-tasting, ill-smelling concoctions of the then "regular" physicians. The Osteopath has, more recently, developed massage into a reason for being recognized as a "doctor," solely because physicians failed to put into practice the well-proven therapeutic value of massage.

Christian Science has gained thousands of wealthy adherents because physicians failed to utilize suggestive therapeutics, and were a little too quick on the trigger with placebos.

Always, we've been reformed from the outside. We learn our defense against a smash on the nose from a certain direction; but are frightfully slow at foreseeing one from a different angle.

It's two years since the above appeal was made to the medical profession to reform its practice from the inside. So far as we know, no society nor group has as yet seriously considered the attempt, unless the establishment of this column be held as such. Must the non-medical public breed a new school of phthisi-therapists who, without the restraint of our principles of ethics, will put us once more upon the defensive? Were we, as a profession, to double back on our trail and really treat consumptives as they have a right to be treated, our incomes could be honestly doubled, the public would be given a run for its money, and the day when consumption will be "wiped out" of Wisconsin" would be materially advanced.

BOOK REVIEWS

VACCINE AND SERUM THERAPY. Including also a study of Infections, Theories of Immunity, Specific Diagnosis and Chemotherapy. By Edwin Henry Schorer, B. S., M. D., Dr. P. H., Assistant Rockefeller Institute for Medical

Research, New York City, etc. Second revised edition. Price \$3.00. C. V. Mosby Company, St. Louis, 1913.

In this second edition of Dr. Schorer's book he has added much new material which was essential in view of the accumulation of data in regard to specific vaccine therapy. The fact that the commercial houses have put out various vaccines at a price within the reach of all, and the fact that they have sent their detail men widely over the land, have popularized vaccine therapy until there is real danger, present even now, of indiscriminate use. Dr. Schorer very rightly calls attention to this abuse in no uncertain terms. He says "There is no vaccine for boils, rheumatism, and so on, but there is specific treatment for infections with *Micrococcus pyogenes* and some of the other micro-organisms." He urges that vaccine should be given only for a specific bacterial disease from the lesions of which the offending organism can be recovered and identified.

It is impossible to write of the subject of vaccine therapy and immunity without using the scientific terminology. However simple one endeavors to make his language he can not get away from the use of many words, phrases, and forms of expression which, to one not familiar with the subject, might as well be some foreign oriental language. For the general practitioner who is alive to what is being done and has followed to some extent the progress of the work, this book will be very helpful but it can not be said to be an elementary treatise in words of one syllable. This is not the author's fault.

To the reviewer he has done his work creditably, has produced a readable book and one that will repay study.

Besides the theoretical consideration of vaccines there are described various laboratory methods for performing the specific tests. A few illustrations help out the text considerably. The author has something to say about chemotherapy (treatment with specific chemical substances) and has written an appendix on diagnosis, treatment and prophylaxis in syphilis and malaria. The publishers have done their share to make the book attractive in appearance.

L. M. W.

BLOOD-PRESSURE, from the Clinical Standpoint, by Francis Ashley Faught, M. D., of the Medico-Chirurgical College, Philadelphia. Octavo of 281 pages, illustrated. W. B. Saunders Company, Philadelphia and London. 1913. Price \$3.00 net.

The importance which has rightly been assigned to the measurement of blood pressure in comparatively recent years has brought out the usual collection of books dealing in compact form with the various facts scattered widely throughout the literature. These books serve an excellent purpose for they put in readily assimilable form a large mass of data and aid in the clarification of the subject in the minds of the average doctor. The technical discussions of interest only to the men working especially in the particular field are necessarily omitted from the text-book and the almost obligatory dogmatic language of the text-book is something to which one can tie.

Dr. Faught has produced a very readable book full of suggestions and about as up-to-date as a book can be. He divides his material into twenty chapters preceded by

a short introduction. The subject is well covered in every respect. The illustrations are not many but are enough to assist in the proper elucidation of the text.

We do not hesitate to recommend this book to the profession as a reliable guide to a very live subject.

The only objection to the book is its size, for which the publishers are responsible. The 274 pages are of a thick almost paste-board paper so that the book is bulky and gives the appearance of containing much more matter than is actually between the covers. However the print is large and clear, it is not on glazed paper, so we should not let our favorable impression of the contents be overborne by the poor dressing of them.

L. M. W.

GENITO-URINARY DIAGNOSIS AND THERAPY, by Dr. Ernst Portner, Berlin. Translated and edited by Bransford Lewis, M. D., B. Sc., Professor of Genitourinary Surgery, Medical Department of St. Louis University. Octavo, 221 pages, 43 illustrations. C. V. Mosby Company, publishers, St. Louis. Price \$2.50 net.

The author of this Manual states in his preface that his endeavor in writing the book has been "to present in a concise form, practical therapeutic methods" and he has succeeded in the difficult undertaking in a very marked degree.

The mere fact that Bransford Lewis is the translator of the small work, speaks more favorably for it than any unknown reviewer's criticism could speak.

Little can be said adversely. Exception is taken to any effort to catheterize in ruptured urethra and also to the following statement. "As acute gonorrhoeal urethritis in the female occasionally heals, spontaneously, it is better to omit all local treatment." The fact that it only occasionally heals spontaneously would seem to be the best argument in favor of local treatment in all cases.

Puncture of a prostatic abscess through the rectum is hardly warrantable; a much more surgical procedure is to open it through a perineal incision.

It is a great pity that what the author says regarding catheterization in chronic retention could not be read by all physicians, for hundreds of lives each year are needlessly sacrificed because of the improper use of the catheter in these cases. The book includes a 25 page appendix devoted to the Serological Diagnosis and Specific Treatment of Gonococcal Infections by Sophian.

E. A. F.

SUMMARIES OF LAWS RELATING TO THE COMMITMENT AND CARE OF THE INSANE IN THE UNITED STATES, prepared by John Koren for The National Committee for Mental Hygiene, published by The National Committee for Mental Hygiene, 50 Union Square, New York. Price \$1.00 postpaid. 1912.

The laws in the different states have a very definite influence upon any measures which may be undertaken

for the betterment of the condition of the insane for, more than is the case with any other class of the sick, the kind of care and treatment which the insane receive depends upon the kind of laws which exist. Many of the present laws were enacted during a period in which the insane were closely linked with criminals in the popular mind. This unfortunate association is reflected in much legislation and it continues, in some states to cause many hardships for this group of sick persons.

In the different states the care of the insane differs so widely that we can find all kinds—from the crude, custodial methods of one hundred years ago to the modern hospital methods—in actual employment at the present time. The great differences in the kind of treatment afforded the insane depend upon the kind of laws which each state has enacted and is satisfied with.

In the period in which much of the present legislation regarding the insane was enacted, custody rather than treatment was the object in mind. Newer conceptions of the nature of the mental diseases have changed this attitude and new ideals in care and treatment have become widely accepted. These ideals have been only imperfectly reflected in legislation thus far, however, and for this reason there must be a concerted effort on the part of all of those interested, to obtain better laws if standards for care of the insane are to be generally raised in the United States.

COLLECTED PAPERS, by the Staff of St. Mary's Hospital (Mayo Clinic) for 1912. Octavo of 842 pages, 219 illustrations. W. B. Saunders Company, Philadelphia and London, 1913. Cloth, \$5.50 net.

The sixth volume of Collected Papers by the staff of the Mayo Clinic contains the articles written and presented for publication to the various medical journals during the year 1912. This is a slight deviation from the plan adopted for the arrangement of the Collected Papers for the 1911 volume, which included only articles either read or published during that year. The present plan brings the annual volume more nearly up to date, and is the plan which will be adhered to in the future.

This beautifully printed and illustrated volume contains nearly seventy papers on a great variety of subjects which are divided into the following general groups: Alimentary Canal, Hernia, Urogenital Organs, Ductless Glands, Head, Thorax, Spinal Column, and Extremities, Technic, and General Papers.

An excellent Bibliographic Index and a very complete Index of Subjects makes the volume a thoroughly practical one to the general reader.

It is impossible to mention in detail the individual excellence of the papers, but in a general way it may be said that, as would be expected from their source, they show a thoroughness, a mastery, and a compactness which deserve our highest commendation.

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EDITORIALS

THE OCTOBER MEETING.

The preliminary program of the October meeting is given on another page of this issue of the Journal and while it is not complete there is enough to show that from the scientific standpoint the meeting is going to be an unusually good one.

The Program Committee has decided very wisely to have the number of papers kept down within reasonable limits so that there may be ample time for discussions. It is felt by all that a full discussion of every paper will add enormously to the practical value of the meeting and also to its interest. So come prepared to tell us what you think and why you think it, and help to make the meeting lively and spirited.

The Arrangement Committee has struck out on new lines and the plans which they have made are given in detail on page 89.

The place of meeting, the Elks' Club, on Jefferson Street, near Mason Street, is conveniently situated in a central position, and yet it is not directly on a street-car line, so that a reasonable degree of quiet may be expected.

Unless all signs fail this is going to be a banner meeting.

Come and bring all the family! And come Monday morning and stay until Saturday evening to take in the whole week's proceedings. A series of clinics will be held before and after the regular program, of which a detailed announcement will be given in the next Journal. Definite arrange-

ments have been made for clinics at the Milwaukee Hospital, the Milwaukee County Hospital, and St. Mary's Hospital, and others are in contemplation. Full particulars next month!

THE FOURTH ANNUAL MEETING OF THE ASSOCIATION OF COUNTY SECRETARIES AND STATE OFFICERS.

There can be no doubt in the minds of those who attended the last meeting of the Association of County Secretaries and State Officers as to the usefulness of this organization. It was an inspiration to all those who were there, and if there is any individual who needs repeated doses of inspiration it is the secretary of a county medical society!

This year the meeting will be held on September 30th, the day before the meeting of the State Medical Society, and if we know anything about the Head Booster, and we have not watched him growing all these years without learning to know something about him, the Fourth Meeting will be even better than the Third.

See to it that your Secretary comes to the meeting! Pay his expenses if necessary. It will be the best investment your County Society can possibly make.

The program is given on another page.

THE ANNUAL MEETING OF THE SOCIETY OF WISCONSIN MEDICAL WOMEN.

On September 30 and October 1 there will be held in Milwaukee the Annual Meeting of the Society of Wisconsin Medical Women. These dates

have been chosen to harmonize with the meeting of the State Medical Society of Wisconsin and the program has been so arranged that there will be no overlapping.

It may well be pointed out that this arrangement typifies the aims and purposes of this organization of the women of our profession. The whole idea of the Society is, as we understand it, not to pull away from the State Medical Society or the County Medical Societies, but to supplement the activities of these other organizations, especially in the field of preventive medicine.

There is so much in the work of preventive medicine that can be done with peculiar effectiveness by the women physicians of today that their interest in this department will be heartily welcomed.

But it is to be hoped that the interest in this Society will not lessen the loyalty to and support of the County and State Societies. Some of the best county secretaries in the state are found among the women physicians, and their activities cannot be spared.

There is work for all in the tasks confronting the medical profession today, however; the important thing is to secure co-operation between the various societies interested so that none of our efforts may be wasted.

BENZOL IN LEUKEMIA.

Whenever a new treatment is brought out for a disease which is generally fatal, there are those who rush into print with reports of one or two cases just as soon as any betterment is noted. In a disease such as leukemia with its natural remissions, one would think that men would hesitate to put themselves on record as advocates of a treatment, toxic in itself, until sufficient time had elapsed to warrant an opinion of the merit of the agent. Since the benzol treatment of leukemia was recommended about a year ago, there have been a number of reports of cases apparently cured, at any rate much improved, but this one fact has stood out obviously in all the reports, *the case was reported just as soon as improvement was noted*. In some reports not a month had elapsed before the enthusiastic (sic) advocate was seeing his name at the head of an article. Some of the cases reported in American literature gave one the impression that the reporter was itching so to get into print

that he could not wait to make necessary blood examinations.

In some cases of leukemia benzol cautiously administered may be of value. It is certainly not the long-sought-for cure. It is a dangerous remedy and from time to time men have published reports warning against its use.

To illustrate the point in premature publication there is a case recently reported by Jespersen with the title "A Case of Benzol-treated Leukemia with Curious Course." The thirty-two year old man had been seen on two previous occasions with typical myeloid leukemia. He had been treated thoroughly with arsenic in one attack and became much better although there was not much change in the number of leucocytes. In the second attack he had been given a course of X-ray which had also caused improvement. In the third attack, the present one, benzol was given in doses as high as 5gm (75 minims) per day. The leucocytes fell from 240,000 to 5,000 in about two months. The general condition improved wonderfully. The spleen, which was enormous, receded considerably. The patient felt so well that he wished to return to work. The report ends here with a few sentences in the author's most enthusiastic language. But—and here is the kernel of the corn—in fine print at the end as a foot note is the statement that shortly after the article went to press, and while the patient was taking benzol he suddenly became worse, the leucocytes rose to 300,000, the spleen enlarged and in 23 days he was dead. The author then assures his readers that the patient did not die of benzol poisoning.

There is nothing we could add to strengthen the point brought out in the brief recital of this case.

L. M. W.

OCULAR FATIGUE FROM THE MISUSE OF LIGHT AND READING SURFACES.

In the last decade the absolute demand upon the ocular apparatus has been enormously increased by reason of the tremendous increase in the volume of work per capita, requiring almost unlimited amounts of letter writing, billing, auditing, book-keeping and office desk work; besides this there is the voluntary use of the eyes in keeping pace with the apparently increasing amount of real literary work as well as the newspapers, periodicals, popular magazines and books.

Our school children in preparing for their life

*Deutsche Med. Wochsft., 1913, XXXIV, 1300.

work are required to devote many more hours to reading and studying, in the school and home, than were required of the preceding generation.

This increased use of the eyes has been made possible by the development of, and improvement made in, artificial illumination. The arts of printing, illustrating and paper-making have developed correspondingly, and, as in the case of artificial illumination, without realizing until recently the untoward effects of the *so-called* improvements, upon ocular comfort and conservation of vision.

The popular demand of the public, and the printer, upon the paper maker has been for a paper of a more and more highly glazed or calendered surface. The widespread use in practically every vocation of this paper with its glaring and specular surface, usually under improper illumination, has resulted in marked ocular discomfort and fatigue and is undoubtedly a factor in the production of functional myopia, as well as the other disorders of the eye.

The necessity for the elimination of glare from the reflecting surfaces of paper, desk tops and from walls and other objects is appreciated by some ophthalmologists, illuminating engineers, psychologists, printers, paper-makers and others, and remedial measures are being actively investigated.

The most effective method of accomplishing this end is by the co-operation of all interested, in securing the wide-spread use of paper with a non-glaring surface of the proper tint, and the utilization of styles of type; spacings of letters, words and lines; quality of ink and methods of illustrating which will combine for ocular comfort. Superimpose upon this a perfectly diffused illumination of proper intensity and color, and much, if not all, of the ocular discomfort complained of at present will disappear.

The authors of the discussion entitled "Protection of the Eyes of School Children" and other articles on allied subjects, are among those studying the question, and call attention to some of the many phases of this subject. The above mentioned article has been constructed with the idea of exemplifying one or two of the points brought out in the discussion.

THE FRIEDMANN VACCINE AGAIN.

The first public announcement of the activities in Wisconsin of the Friedmann Institute, (if that

is what it is called) was published in some of the daily papers on August 1st.

The following is the text of the notice:

PUBLIC ANNOUNCEMENT.

"We have met the enemy and they are ours." Dr. Friedmann's Remedy for tuberculosis, guaranteed genuine, can be obtained in Milwaukee. Be sure that the case, or your physician, gets indorsement. It costs nothing.

Signed,

E. WELLS KELLOGG, M. D.,
Assistant Commissioner of Health,
Milwaukee, Wis., 800 Majestic Bldg."

As the nature of this "indorsement" was not explained in the announcement and as there might be a question as to what the final sentence referred to, a letter of inquiry was sent to Dr. Kellogg asking for information on these points. His reply follows:

Milwaukee, Aug. 6, 1913.

Dear Doctor:—

In reply to your favor of the 4th instant, I wrote a prescription for the Friedmann vaccine about three months ago. If it is to be filled and I am to be judged by the results I claim the right to know who fills it and would prefer to know on whom it is used. My endorsement of the remedy for any particular case "costs nothing."

Respectfully yours,

E. WELLS KELLOGG.

What does the securing of an "endorsement" of this kind amount to when the methods that are being used to promote the sale of this vaccine show that the safety and welfare of the patient are in no way safeguarded?

The following letter, which was sent to an individual suffering from tuberculosis, will give an idea of the manner of selecting patients which is followed.

DAVID S. ROSE,
LAWYER,
1344 Wells Building,
Milwaukee.

August 15, 1913.

The Friedmann Laboratories for Tuberculosis Research will be opened to receive and treat patients on Wednesday, August 20, 1913.

Dr. Julian J. Meyer, from the home office in New York, will be here to receive and treat patients and to instruct our physician.

Patients who received treatments on July 14-15 should come in for examination and second treatments if ready.

Persons desiring to take the treatment should call upon me on or before Wednesday at my office and make

arrangements. The charge for the full course of treatment is \$250 together with \$10 for the first examination and \$5 for each subsequent examination; full course fee of \$250 and first examination fee of \$10 payable in advance at time of first treatment.

It will not be necessary for patients to remain at the laboratories after treatment; they may return to their homes, report once each week by letter and report in person once each month for examination and for treatments as the conditions may require.

Please advise me if you wish the treatment and if you will call on Wednesday or before and make arrangements.

Respectfully yours,

D. S. ROSE,
General Counsel.

There have been no recent developments in regard to the Friedmann Vaccine which would justify a change in the general attitude of the medical profession towards it. Reports of fatalities following its use have been numerous enough to convince one who is not blinded by enthusiasm, or something else, that the vaccine is not a harmless preparation.

What its ultimate value may be remains to be demonstrated. No one knows at the present time—certainly not Friedmann himself. For he has shown himself either unwilling to have satisfactory tests made, or else wholly ignorant of what constitutes satisfactory testing of a preparation of this character.

Under the circumstances the action of the physicians who are giving countenance to the promiscuous use of this "remedy", and who are using official position to help advertise this insufficiently tested and possibly dangerous preparation, is sure to receive thorough condemnation by the great majority of the medical profession.

The manner in which the "remedy" is being pushed is characterized by the most eommercial and discreditable methods and when the whole story is told those of the promoters who are medical men and who are therefore expected to have some standards of decency and honor, will hang their heads with shame.

PLAGUE INFECTED SQUIRRELS STILL PRESENT IN CALIFORNIA.

The quiet, persistent fight which is being made to protect us all from plague is not a spectacular one and so little fuss is made about it that we almost forget that the struggle is still going on. It is therefore of interest to note in the Public Health Reports for August 8, 1913, the statement that during the period from July 2 to 14, inclu-

sive, 23 plague-infected ground squirrels were found in Contra Costa County, California.

CORRESPONDENCE

MEMBERSHIP IN THE AMERICAN PUBLIC HEALTH ASSOCIATION.

To the Editor:

Only 23 Wisconsin citizens are, according to the directory, members of the American Public Health Association. It is most encouraging that apparently six of the 23 are not physicians. It would seem that there must be many more Wisconsin physicians who are sufficiently interested in public health to desire membership were their attention attracted.

The American Public Health Association was formerly considered largely an association of health officers. Recently, however, the scope has been broadened. Membership privileges are now extended to "any person interested in public health work". The program of the 1913 meeting to be held September 9-13 leaves little to be desired.

Colorado Springs is a most attractive meeting place and any who have not enjoyed the hospitality displayed there upon such an occasion, can have but little conception of it. A special effort is being put forth to insure a good attendance and particularly at the meetings of the Sociological Section. A more interesting field than medical sociology has yet to be opened. There are indications that there will be opportunities ahead for physicians trained in social problems which will at least equal the average presented to physicians in private practice.

The undersigned will be glad to hear of any physician who is interested, who desires membership, or who may be considering going to Colorado at this time.

HOYT E. DEARHOLT,
Vice Chairman, Sociological Section.

NEWS ITEMS AND PERSONALS

Dr. F. I. Drake, a well known Madison physician, has been appointed by the state board of control as prison physician at the state prison in Waupun, succeeding Dr. L. R. Sleyster, who has been appointed as superintendent of the new hospital for the criminal insane at Waupun. The salary of the position to which Dr. Drake has been appointed is \$1,800 per year.

Dr. Leopold Schumacher, for two years first assistant on the medical staff of the University of Wisconsin, in charge of student health, has resigned and left for Chattanooga, Tenn., where he will engage in private practice.

"Optometrists will introduce their bill in the next legislature," said C. D. Waugh, secretary, Association of Optometrists, following adjournment of its convention. "The directors will have charge of the bill, and it will be like the one Gov. McGovern vetoed. We think his objections are farcical."

The governor has signed the board of health bill increasing the powers of that board and giving it an annual appropriation of \$40,000 to carry out the additional duties imposed upon it. The state is to be divided into five sanitary districts over each of which shall be a deputy health officer. Under the new law special attention is to be given to the eradication of tuberculosis. Executive approval has also been given to the bill appropriating \$28,000 for carrying on the work of the geological and natural history survey. A part of this amount will be used in making a complete soil survey of the lands within the state forestry reserve.

Dr. A. J. Schweichler, of Milwaukee, who served one year in the house of correction in the above city on a charge of manslaughter was granted a full pardon by Gov. McGovern on July 22. It is said that this action was taken to permit Dr. Schweichler to again take up the practice of medicine.

MARRIAGES

Dr. R. E. Flood, St. Cloud, and Miss Lillian A. Ward, Campbellsport, Aug. 4, 1913.

DEATHS

Dr. J. F. Lohrs committed suicide at his home in the village of Highland July 24th.

Dr. Lohrs was born near Elvers Mills, Dane county and was a resident of Barneveld several years. Upon graduation he moved to Highland where he entered practice of his profession and where he was married to Miss Cholvin. One daughter was born to them who died at the age of about ten years. The doctor never was himself after his daughter's death.

Dr. Adolph Moeller, formerly a physician at Milwaukee, died suddenly at Alhambra, Cal., July 27. Dr. Moeller leaves a widow and three children.

Dr. Francis W. Howe died Aug. 2d of spinal meningitis at the home of his brother in Green Bay.

Dr. Howe was 31 years old and unmarried. Before his health failed he practiced medicine in Denver. In his student days he was famous in athletic circles as a football quarterback and team manager, and was familiarly known as "Nig" Howe. He was born in Milwaukee and was graduated with the B. A. degree from Marquette in 1905. He then studied medicine in St. Louis university, receiving his medical degree in 1908. He went to Denver and was in practice there until last April, when his health began to fail.

BOOK REVIEWS

THE MODERN TREATMENT OF NERVOUS AND MENTAL DISEASES. By eminent American and British authors. Edited by William A. White, M. D., Superintendent of the Government Hospital for the Insane, Washington, D. C.; Professor of Nervous and Mental Diseases in the Georgetown University and in the George Washington University; Lecturer on Mental Diseases in the U. S. Army and U. S. Navy Medical School, Washington, D. C., and Smith Ely Jelliffe, A. M., M. D., Ph. D., Adjunct Professor of Diseases of the Mind and Nervous System in the Post-Graduate Medical School and Hospital; Visiting Neurologist to the City Hospital; Consulting Neurologist to the Manhattan State Hospital, New York, N. Y. Two octavo volumes, containing about 900 pages each, illustrated. Per volume, cloth, \$6.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

In these two large and handsome volumes there is presented, almost for the first time, a consistent and comprehensive outline of rational therapeutics of the diseases of the nervous system, including those of the mind.

Volume I opens with a chapter on Eugenics and Heredity in Nervous and Mental Diseases by William A. White, of Washington, and discusses the importance of eugenics, the theoretical considerations on which the study of heredity is based, inheritance in nervous and mental diseases, and the influence of the environment. This is followed by chapters on Education by S. S. Colvin of Providence, Sexual Problems, Their Nervous and Mental Relations, by Havelock Ellis of England, and an especially interesting chapter on the Educational Treatment of the Feeble-Minded by Henry H. Goddard of Vineland, N. J.

Delinquency and Crime in Relation to Mental Defect or Disorder is considered by William Healy of

Chicago, while *Immigration and the Mixture of Races in Relation to the Mental Health of the Nation* is discussed in a most illuminating and impressive manner by Thomas W. Salmon of the United States Public Health Service.

The next chapter by H. W. Mitchell, of Warren, Pa., deals with Alcoholism and the Alcoholic Psychoses and recognizes the importance of suggestive factors and of absolute honesty and consistency in their management.

The Treatment of the Neuroses, Including the Psychoneuroses, is adequately handled in a chapter of eighty-five pages by Ernest Jones of Toronto, while the Traumatic Neuroses and Psychoses and Occupation Neuroses receive separate consideration in an additional chapter by John Jenks Thomas of Boston.

Chapter X is devoted to the important subject of Disturbances of the Internal Secretions and Sympathetic System Disorders.

The Manic-Depressive Psychoses and their Treatment are discussed in an interesting chapter by Clarence B. Farrer of Baltimore, who closes his remarks on Eugenics with the following suggestive paragraph:

"The eugenist naturally and laudably desires that only children sound and complete in mind and body should be brought forth. But he can afford to pause now and then and season his ambition with the reflection that had the generations gone produced only children of assured mental health and balance, the names of Socrates, Petrarch, Dostoiwsky, Schumann, Coleridge, Napoleon, Cowper, Newton, Tasso, Ruskin, Southey, Mohammed, Keats, de Musset, Byron, George Sand, Manzoni, Burus, Swift, Flauhart, Beethoven, Luther, Carlyle, Comte, DeQuincey, Fechner, Poe, Saint-Pierre, Joan of Arc, Cromwell, James Thompson, Savonarola, Lamb, de Maupassant, Cellini, Baudelaire, Shelley, Schopenhauer, Goethe, would be missing from the world's hall of fame."

Another chapter of great interest is that on the Treatment of Paranoic and Paranoid States by Adolph Meyer of Baltimore. This is followed by chapters on The Prison Psychoses by Bernard Glueck, Presenile, Arteriosclerotic and Senile Disorders of the Brain and Cord by A. M. Barrett, and several others, the volume closing with a discussion of the Functions of the Hospital in Nervous and Mental Disorders by James V. May.

In volume II are taken up in succession the following subjects:

The Treatment of the Neuralgias and Neuritides, by Sidney I. Schwab, M. D., The Treatment of Injuries to the Peripheral Nerves, by James Sherren, F. R. C. S. (England), The Treatment of the Muscular Atrophies and Dystrophies, by Isador Abrahamson, M. D., The

Treatment of Headaches, by Smith Ely Jelliffe, A. M., M. D., Ph. D., The Treatment of Spasmodic Disorders, by Herman H. Hoppe, M. D., The treatment of the Epilepsies, by J. F. Munson, A. B., M. D., The Treatment of the Meningitides, by William J. M. A. Maloney, M. D. F. R. S. (Edinburgh), The Treatment of Syphilitic Diseases of the Nervous System, by Smith Ely Jelliffe, A. M., M. D., Ph. D., The Use of Salvarsan and Neosalvarsan in Diseases of the Nervous System, by Henry J. Nichols, M. D., The Treatment of Cerebral Hemorrhage, Embolism, and Thrombosis, by Frederick Tilney, A. M., M. D., Ph. D., The Treatment of Disorders of Expression (Aphasia, Apraxia, Etc.), by S. A. Kinnier Wilson, M. D., B. Sc., M. R. C. P. (London), The Treatment of Stuttering, by E. W. Scripture, M. D. (Munich), Ph. D. (Leipzig), The Treatment of Diseases of the Cranial Nerves and Organic Lesions of the Spinal Cord, by Colin K. Russel, B. A., M. D., Diseases of The Optic Thalamus, Midbrain, and Cerebellum, and their Treatment, by Gordon Holmes, M. D., M. R. C. P., Paralysis Agitans and Multiple Sclerosis and Their Treatment, by Carl D. Camp, M. D., The Treatment of the Toxemias of Dangerous Trades and of Drugs, by Louis Casainajor, A. M., M. D., Surgery of the Brain and Spinal Cord, by Albert E. Halstead, M. D. and Roger T. Vaughan, M. D.

The scope and comprehensiveness of the work will be readily seen by the outline we have given above and the character of the contents may be inferred from the names of the authors of the various chapters. The discussion of the various therapeutic procedures is ample and lucid. On the whole the literary style of the work is excellent and only occasionally does the jargon of the psychiatric clinic become so much in evidence as to obscure the meaning to the general medical reader. Occasionally, however, the enthusiasm of a writer outruns his intelligibility and we get a sentence like the following: "Isolated attacks of uncomplicated manic excitement, affect depression or stupor, ending in recovery without an alternate phase or in some instances after a mild transitory suggestivè contrast-reaction, by no means always easy definitely to constate." One might almost think Henry James had taken up the writing of medical works; but he would at least have given us a verb.

These difficulties are unusual, however, and as a whole the volumes are extremely interesting reading.

As specimens of book-making these volumes are a credit to the publisher. The type is clear, the paper unglazed, the plates well executed and sufficiently numerous. There is an index of each volume and in addition a general index of the entire work at the end of volume II.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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 C. A. ARMSTRONG, Boscobel 1st Vice President
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NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER 1-3, 1913.

The Wisconsin Medical Journal. Official Publication.

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	W. T. Rinehart, Ashland	C. J. Smiles, Ashland.
Barron-Polk-Washburn-Sawyer-Burnett	W. L. M. Knowles, Spooner.	B. N. Webster, Rice Lake.
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Calumet	E. L. Bolton, Chilton.	F. P. Knarf, Kiel.
Chippewa	C. A. Hayes, Chippewa Falls.	A. L. Beier, Chippewa Falls.
Clark	H. H. Christofferson, Colby.	E. L. Bradbury, Neillsville.
Columbia	B. F. Bellaek, Columbus.	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills.	A. J. McDowell, Soldiers Grove.
Dane	C. A. Harper, Madison.	F. S. Meade, Madison.
Dodge	H. B. Sears, Beaver Dam.	E. S. Elliott, Fox Lake.
Door		N. Z. Wagener, Sturgeon Bay.
Douglas	T. J. O'Leary, Superior.	W. E. Hatch, Superior.
Dunn-Pepin	E. H. Grannis, Menomonie.	L. A. Dahl, Menomonie.
Eau Claire	A. L. Payne, Eau Claire.	E. E. Tupper, Eau Claire.
Fond du Lac	L. A. Bishop, Fond du Lac.	F. A. Read, Fond du Lac.
Grant	J. C. Betz, Boscobel.	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe.	S. R. Moyer, Monroe.
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Juneau	T. S. Lawler, Lyndon Station.	A. T. Gregory, Elroy.
Kenosha	William Pugh, Kenosha.	C. H. Gephart, Kenosha.
La Crosse	Oscar Houek, La Crosse.	G. W. Lueck, La Crosse.
Lafayette	J. C. Hnbenthal, Belmont.	Susanne Orton, Darlington.
Langlade	G. W. Moore, Antigo.	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill.	Herbert Saylor, Merrill.
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Rusk	G. M. Carnahan, Bruce.	W. F. O'Connor, Ladysmith.
Sank	F. D. Hulburt, Reedsburg.	Roger Cahoon, Baraboo.
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Waupaca	P. J. Christoffersen, Waupaca.	G. T. Dawley, New London.
Winnebago	L. P. Allen, Oshkosh.	H. W. Morgenroth, Oshkosh.
Wood	J. A. Jackson, Rudolph.	J. B. Vedder, Marshfield.

PRELIMINARY PROGRAM OF THE SIXTY-SEVENTH ANNUAL MEETING OF THE
STATE MEDICAL SOCIETY OF WISCONSIN.

WEDNESDAY, OCTOBER 1st, 1913.

Annual Address of the President.....A. J. PATEK, Milwaukee
Intraspinal Medication in Paresis and Tabes.....W. F. LORENZ, Mendota
Gas-Novocain AnesthesiaW. E. BANNEN, La Crosse
The Administration of Tuberculin.....O. E. LADEMANN, Milwaukee
The Present Indications for Vaccine Therapy.....J. K. CHORLOG, Madison
Anaphylaxis in Cancer.....F. G. CONNELL, Oshkosh

THURSDAY, OCTOBER 2nd, 9 A. M.

Prostatectomy in the Aged.....J. F. PEMBER and T. W. NUZUM, Janesville
Clinical Value of Stool Examinations.....A. H. SANFORD, Rochester, Minn.
Obstruction in the Digestive Tract.....PAUL EISEN, Milwaukee
Acute Intestinal Obstruction.....EDWARD QUICK, Green Bay
An Operation for Painful, Intractable Sacro-Iliac StrainEDWARD EVANS, La Crosse
Intranasal Treatment of Chronic Frontal Sinus Suppuration.....W. E. GROVE, Milwaukee
Annual Address in Medicine. A Clinical Study of Respiration.....C. F. HOOVER, Cleveland, Ohio

AFTERNOON SESSION.

Some Aspects of Cardio-Renal Disease.....R. L. SCHULZ and L. M. WARFIELD, Milwaukee
Volkmann's Ischemic Paralysis.....C. J. HABIEGGER, Watertown
Medical Inspection of Schools.....G. P. BARTH, Milwaukee
Medicine and Sociology... ..C. R. BARDEEN, Madison
Practical Application of Some Experimental Studies on the Pancreas.....J. L. YATES, Milwaukee
Annual Address in SurgeryJ. M. HITZROT, New York, N. Y.

FRIDAY, OCTOBER 4th, 9 A. M.

The Treatment of Syphilis.....O. H. FOERSTER and C. A. BAER, Milwaukee
Paper to be announced.....J. F. SMITH, Wausau
Serum Diagnosis of Pregnancy.....C. M. ECHOLS, Milwaukee
Borderlines of Orthopedics.....F. J. GAENSLEN, Milwaukee
Extra-Sacral or Sliding Hernia.....VICTOR F. MARSHALL, Appleton

PRELIMINARY ANNOUNCEMENT OF AR-
RANGEMENT COMMITTEE.

The Committee on Arrangements for the Annual Meeting of the State Society which is to be held in Milwaukee, October 1, 2 and 3, wishes to announce that it will do everything possible to make the meeting a most successful and enjoyable one. This committee consists of Drs. Franz Pfister, C. H. Lemon, President of Milwaukee County Society, Gilbert E. Seaman, President of Milwaukee Medical Society, J. W. Frew, and C. A. Evans (Chairman).

The entire Elks' Club, a large three story building, located on Jefferson St., one block North of Wisconsin St., has been rented for the three days.

This building gives ample room for all purposes. The registration office, information bureau, and lounging rooms will be on the first floor, the main assembly room, committee rooms, and ladies' rest room will be on the second floor, and the third floor will be used for commercial exhibits. Practically all spaces for exhibits have been reserved and only reputable concerns will be represented. The only meetings to be held outside of the Elks' Club are those prior to Oct. 1., namely, meeting of the House of Delegates and that of the Association of County Secretaries and State Officers, both of which will be held in the Milwaukee Medical Society Rooms. The State and County Officers' meeting will be followed by a "Ginger Tea".

The committee has deemed it wise to omit the customary banquet and to arrange for one grand smoker to be held on Thursday evening. This will leave Wednesday evening open for alumni reunions, theater parties (all theaters being open in October), etc. The smoker will be held at the Elks' Club and will consist of a formal part made up of speeches and an informal part to consist of a good time with vaudeville stunts, songs, boxing match, etc. Everything will be free of charge to registered members and there ought to be enough for everybody.

There will be entertainment for the visiting ladies and a ladies' committee has been appointed to take charge.

There will be no pathological exhibit as we do not feel that this has been particularly successful in the past.

SECRETARY'S NOTES

MEMBERSHIP.

The number who have paid the 1913 dues to date is 1603. This is 84 less than the total membership of 1912, which was 1687. It is encouraging to state that 143 of the 1913 membership are new members in the counties where they have joined.

The following Societies have not yet sent in their Annual Reports: Door, Iowa, Oconto and Sauk. A determined effort is being made to get in these reports before the meeting in October, and success is probable.

The Counties making the largest gains to date are, Sheboygan 12, Barron, etc., 7, Green 6, Marinette 4, Calumet, Douglas, Fond du Lac and Waukesha, each 3. Those showing the largest loss are, Milwaukee 10, Green Lake and Lincoln each 6, Juneau, La Crosse, Rock and Pierce each 5, Lafayette, Marathon, Racine and Winnebago each 4. We are hopeful that these losses will be largely wiped out before the Annual Meeting. The whole number of County Societies remains the same as last year, 53. Of these, 17 show a gain, 25 a loss, 7 are the same, and 4 have not yet reported.

In size of membership, Milwaukee, of course, stands first with 305 members, Dane second with 95, then comes Winnebago 56, Rock 55, Sheboygan 48, Fond du Lac 46, Waukesha 45, and Grant 44.

In the Societies which have reported, there is a

net loss to date of 31. While this showing is not especially discouraging, considering the fact that so many Societies wait till near the Annual Meeting before making a final report, it yet means plenty of work for all concerned during the next six weeks if we are to increase the 1912 membership.

While we should not relax our efforts to secure all the renewals it is possible to get, we should lay especial stress on getting in *new* members, particularly the young men who are just beginning their professional life. It is well to remind them that, even if business is slack and funds are low, it is poor economy to refuse to join the Medical Society on account of the expense. It is the young doctor who especially needs to cultivate as close relations as possible with the whole profession into which he has entered, and become as *soon* as possible, an active, vital part of that body. Accordingly, every new man coming into the county should be approached at once, and, if eligible for membership, no merely formal and perfunctory invitation should be extended him, such as sending him an application blank, but the officers of the Society should personally and cordially give him the right hand of fellowship, and make him feel that he has come among friends, and not enemies.

THE FEE-SPLITTING

abomination, which we have fought so long, has at last been called by the State itself to the bar of judgment, and has been properly and, as we hope, radically dealt with. It might seem to have better suited the dignity of the profession to settle the matter within our own ranks, but this proved to be a task beset with difficulties, and this solution of the problem by the State is probably the best we could do. But it would be unwise to assume that this is the end of the business, and that the medical profession has nothing more to do in the premises. "Eternal Vigilance is the price of Liberty!" And it is quite probable that, even now, those so disposed will be able to devise some method whereby they may evade this law. But, if this shall prove true, such practices should be brought into the light by the medical profession itself, and the offenders should be made to feel the full penalty of the law.

THE ANNUAL MEETING

will be held in Milwaukee, October 1-3. As usual, there will be a Conference of the Officers of the Society, the Council, and the County Secre-

taries, on Tuesday September 30th, beginning at 1:30 P. M. The first meeting of the House of Delegates will take place in the evening of the 30th, beginning at 7:30 o'clock.

There is every reason to expect a large attendance and a most successful meeting. For several years our meetings have consistently maintained a very high standard of excellence, and the coming one will prove no exception.

The Preliminary Program is in this number of the Journal, and is its own commendation. While its character is sufficiently scientific, it contains a large number of papers which are eminently practical, and the whole program cannot fail to be intensely interesting.

Drs. Hoover and Hitzrot, who are to give the addresses in Medicine and Surgery, stand in the very front rank of the profession as thinkers and workers, and no one in the society can afford to miss hearing what they have to say to us.

As usual, the social features of the meeting will receive due consideration.

The "Ginger Tea" following the Conference of the State Secretaries, will be held at the Pfister Hotel at 6 o'clock, on Tuesday evening, September 30th. Wednesday evening, October 1st, will be devoted to theater going, class reunions, etc.

On Thursday evening will take place a smoker of very large proportions, in fact, never attempted or equalled before in the history of the Society.

In the glowing words of the chairman of the local Committee, "This is to be some smoker! First part formal with address, etc., second part less formal, with vaudeville stunts and boxing match (with the permission of fight commission of State). Everything free to all members."

There will also be receptions and other entertainments for the ladies who are in attendance, and they are cordially invited to be present. For a change, the local Committee of Arrangements has concluded to see how it will work to omit the usual Banquet this year. This is an excellent plan. It is very often the case that we fail to recognize the real value of some institutions till we are deprived of them, and then appreciate them all the more. It is quite probable we shall resume the usual banquet next year. The Smoker takes its place on Thursday evening.

The meeting is to be held at the Elks' Club House which, we are assured, will furnish us "all the comforts of a home," including a bar (for soft drinks only) and a bowling alley.

Surely with all these superior attractions, no member of the Society who is able to raise the price of a ticket can fail to attend! And come early and get into the game! Also, show you are no "quitter" by staying till the last paper is read! Then you will return to your homes with an approving conscience, strengthened and refreshed for still greater triumphs.

C. S. S.

The Fourth Annual Meeting of the Association of County Secretaries and State Officers of the State Medical Society of Wisconsin will be held in the rooms of the Milwaukee Medical Society, Goldsmith Bldg., Milwaukee, Sept. 30, 1913, at 1:30 P. M.

PROGRAM.

ST. BOOSTHEIMER'S DAY.

1:30 P. M.

1. WelcomeMAYOR G. A. BADING
2. Annual Address of the President.....MAURICE DUANE BIRD, Marinette
3. The District Medical Society.....JOSEPH SMITIL, Wausau
DISCUSSION:—E. R. TUPPER, Eau Claire G. WINDESHEIM, Kenosha
4. The County Society Bulletin.....F. P. KNAUF, Kiel
DISCUSSION:—A. W. MYERS, Milwaukee A. J. PATEK, Milwaukee
5. Medical Legislation.
A Discussion led by SEN. GEO. E. HOYT, Menomonie Falls, A. W. GRAY, Milwaukee, and
J. P. McMAHON, Milwaukee
6. AddressALEX. R. CRAIG, Sec. A. M. A., Chicago
7. Successful Meetings with a Scattered MemberE. S. ELLIOTT, Fox Lake
DISCUSSION:—W. F. COWAN, Stevens Point C. E. STUBENVOLL, Shawano
8. Question Box.
9. Business Meeting and Election of Officers.

6 P. M.
 "GINGER TEA"
 HOTEL PFISTER

Tea Master	EDWARD EVANS, La Crosse
Tea-Totaler	TOM HAY, Stevens Point
Tea-Spooner	M. R. WILKINSON, Oconomowoc
Tea-Kettler	WILSON CUNNINGHAM, Platteville
Tea-Singer	C. S. SHELDON, Madison

SOCIETY PROCEEDINGS



The Calumet and Manitowoc County Medical Societies at Maple Crest Sanitarium.

CALUMET COUNTY

JOINT MEETING OF CALUMET AND MANITOWOC COUNTY MEDICAL SOCIETIES.

The Annual Automobile Run of the Calumet County Medical Society took place on July 24, and ended in a joint meeting with the Manitowoc County Medical Society. The following account of the good times they had is taken from the pages of *The Chilton Times* for Aug. 2.

The picture at the top of the page shows what a successful feature an automobile run may be made in the year's program of a county medical society.

"If any one should tell the editor of this paper that the physicians and surgeons of the Calumet County Medical Association are so completely wrapped up in their profession that they can't find time to smile and jolly up a bit, we have firmly made up our minds not to believe it. There is one day in the year that suffering humanity with all its ills, is relegated to the background and joy, unconfined, replaces it. This day of days is the one set aside for the annual auto tour that the members of

the association and their families have been making for the past few years and on Thursday of last week the big event for 1913 was pulled off.

"Through the courtesy of Dr. Bolton of this city and Dr. Knauf of Kiel the *Times* editor was invited to make one of the party and to them we are indebted for a most delightful day.

"Our destination was Maribel, a summer resort in Cooperstown, Manitowoc county, and with Dr. Knauf of Kiel to pilot the party there was no question about our getting there. Leaving Chilton at ten o'clock in the forenoon a run was made to Hilbert, thence to Brillion via Potter. At Brillion nineteen autos were lined up and made the caves, passing through Kasson, the town of Maple Grove, and finally landing at a town called Wayside, where Dr. Burke joined the procession. After traveling a distance of some forty miles from Chilton through as fine a stretch of farming country as can be found on God's green footstool the party landed some forty strong at Maribel resort where dinner was served. After satisfying the inner man, a stunt that all medical men recommend, Dr. Knauf informed the party that a

telephone message was received by him, in place of his ice cream, from members of the Manitowoc Medical Association containing a cordial invitation to visit the sanitorium at Whitelaw. The invitation was accepted and then the hurry up call was sent in. Dr. Bolton, president of the association, was giving a clinic at the head table, dissecting a chicken that had seen several summers around the resort. He was asked by The Times man if it wouldn't be quicker to hold a post mortem but was so interested that he refused to be interrupted. He got away from the table however, without finishing the chicken and Paul Schubert then took a shot at the disciples of Aesculapius with a camera.

"The doctors as a whole could not pose as a thing of beauty but they certainly had good taste in selecting their life partners. There was not a woman of their party who was not good looking, and this helped Schubert out in making a photo that was excellent.

"Loaded in the buzz wagons the party again were on their way, passing through several villages over some of the best highways in the state. The roads were built before the state highway commission was a reality and they speak well for the farmers of our adjacent county. There are many hills and in them are the proper material for road building. This with a community alive to the advantages of good roads and not afraid to work them, is what makes it a pleasure to travel through Manitowoc county. Calumet county farmers could learn a lesson in road building by just driving across the line for ten or a dozen miles. Passing through Kellnersville and other towns the party reached Whitelaw, near which is located a new institution erected in the interest of humanity and known as the Maple Crest Sanitarium. The Calumet county delegation was a trifle late owing to the "eats" at Maribel but the welcome from the members of the Manitowoc County association and the officers and board was none the less warm and all were made to feel that they had fallen among friends.

"There were some nineteen "medicine men" of Manitowoc County on the reception committee, headed by Dr. J. Currens of Two Rivers, one of the best read and most popular medical men of the state. Besides the doctors the members of the sanitarium board, comprised of August Schlutte of Manitowoc, T. H. Meaney and Jos. Willot of Reedsville and C. A. Groffman were there to welcome those who carry the "Calumet". Judge John Chloupek and district attorney Healy of Manitowoc were also in evidence as were others whose names The Times scribe was unable to secure, being so anxious to get his picture "took" with men who are doing things.

"The institution, which is the first one of the kind established by any county in Wisconsin, is indeed a credit to our neighbors and was warmly endorsed by every one in the party. The genial president, Dr. Currens, gave a brief history of the institution, telling how it was established to combat the dread disease, tuberculosis, which had been gaining such a strong foothold in America and not forgetting to tell what the good people of his county were doing for the cause. Dr. Kelley of Cato also briefly told of the work of the sanitorium, stating that since it was opened eighteen persons had been received and all had been benefited. There are at present eleven patients there. The matron of the sanitarium is Mrs. Hyser and

all feel grateful for the kindly treatment received from her and her corps of assistants. She served ice cream and cake to the entire party and here is where Dr. F. P. Knauf of Kiel caught up with the frozen delicacy that he missed several miles back on the road.

"The institution is beautifully situated at the foot of a hill covered with maples. It has all the conveniences of the large sanitarium and is a great boon to Manitowoc, and the eastern section of Wisconsin, and those afflicted with tubercular trouble should go there at once. Calumet county should have a similar institution but until that time comes our people should make arrangements to receive some of the benefits at Whitelaw. The terms are reasonable and information can be had through your family physician or by writing to Maple Crest board of directors.

"After a visit which will long be remembered by the medical men of Calumet county and those with them, the homeward trip was made through Clarks Mills, Valders and St. Nazianz and there was not one minute of the day lost.

NOTES.

"At Hilbert, Dr. C. F. Lawler, who recently came into possession of a new runabout, gave two exhibitions of fancy driving, the first running on two side wheels along an embankment and doing a figure eight. This was in his home town and was not on the program.

"There were several laymen in the party, and it was left to Geo. C. Hume to lead up one or two hills. He may know something about law practice but he certainly needs more general practice than he showed on this eighty mile trip for from four to one on the power lever was too complicated for him.

"Editor Kuenne of the Kiel National Zeitung looked like a doctor, was as sanctimonious as a preacher and his pleasant ways with the ladies gave him a standing in every town visited.

"W. N. Knauf made the circle without needing the assistance of more than two physicians. On the return trip he looked as though his car had met with a mishap but on closer inspection it was found that he had just crooked his left elbow in trying to open up a bottle of sarsaparilla under a shady tree a few miles out of St. Nazianz.

"The male portion of the party were all on their good behavior due to the fact that the ladies were seeing to it that they were kept busy. The editor was exceptionally well behaved owing to the reason that the head of his firm was keeping tab on him and constantly directing his movements. He rebelled at nothing and was kept out of mischief looking after Dr. N. J. Knauf's youngest son who was as anxious as his father to have his picture taken."

BOOK REVIEWS

LABORATORY METHODS WITH SPECIAL REFERENCE TO THE NEEDS OF THE GENERAL PRACTITIONER. By B. G. R. Williams, M. D., and E. G. C. Williams, M. D. Sec-

ond Edition, p. 200, with 43 illustrations. C. V. Mosby Co., St. Louis, 1913. Price, \$2.50.

In the introduction to this volume Dr. Victor C. Vaughn of Ann Arbor writes:

"There is nothing more hopeful in the practice of medicine today than the thorough way in which many general practitioners are doing their work. There are many small cities, and even villages, in which there are general practitioners who have equipped themselves with most effective laboratories. This volume shows that the working laboratory in which the best work may be done can be established at a small cost. It requires only a good man to conduct it. It would be regrettable were it true that the country doctor has ceased to do scientific work. Jenner was a village doctor when he tested and demonstrated the efficiency of vaccination for smallpox. Pasteur had shown himself a great scientist before he ever saw Paris. Koch was a *stabsarzt*, remote from any great medical center, when he devised solid culture media for the growth of bacteria, and opened up a method of scientific investigation which has given such brilliant results. Sims was a practitioner in the then village of Montgomery, Alabama, when he worked out the technic of the successful operation for vesicovaginal fistula. Long was a rural doctor in Georgia when he first removed a tumor under general anesthesia. Pollender was a country doctor when he first studied the blood of animals sick with anthrax, and demonstrated rod-like organisms in the same. Beaumont was an army surgeon, stationed at an isolated post on the Island of Mackinac, in the then territory of Michigan, when he made his now classical experiments upon Alexis St. Martin. Indeed, if we take away from medicine the contributions to that science made by physicians far removed from great commercial centers, we rob it of half its glory and its honor.

"This little volume shows how the general practitioner can, at a very small cost, equip a laboratory in which he can do most excellent work. It demonstrates that costly apparatus and marble rooms are not necessary for the prosecution of scientific medicine."

The aim of the authors has been to simplify methods both as to apparatus and technic, while the essential factors have been emphasized in such a manner as to indicate their importance. Only tests which are recognized as thoroughly good are given, so that the reader will not be perplexed by being obliged to choose between several methods. Stress has been laid on safe diagnosis, and sources of error, as well as the value and limitation of tests, have been pointed out.

This volume ought to be a valuable addition to the library of the general practitioner who has not already a well-equipped laboratory, and it should have a decidedly stimulating effect by presenting the possibilities of doing work of a high order of merit without elaborate equipment.

HERMANN VON HELMHOLTZ. Koenigsberger, Leo, Heidelberg. Abbreviated popular edition. 356 pp. with 2 photogravures. Braunschweig. Friedrich Vieweg & Son. 1911. Cloth, 4.50 Mark, \$1.12. In 1903 we reviewed the admirable biography of von Helmholtz in 3

volumes by Leo Koenigsberger which is of the greatest interest to the whole scientific world and large circle of author, yielding to a much coveted wish from many educated laymen. The present volume is a new, but less voluminous, edition of very moderate price, which the sides, accomplished by leaving out all those parts which were of interest only to a limited circle of readers, and the exhaustive scientific discourses, which require greater mathematical and physical knowledge.

The author says in the preface that nothing was changed in the general plan of the biography in order to preserve its scientific character, without which the portraying of the life of such an eminent investigator too easily assumes a subjective color, not appropriate for a circle of educated and critical readers. Personal and scientific relations to Herman von Helmholtz, existing for many years, and the urgently repeated requests of his late widow, Mrs. Anna von Helmholtz, were for Koenigsberger the incentive to write this biography. He was materially supported by the relatives of V. H., especially his daughter, Mrs. Ellen von Siemens and a large number of celebrated scientists and personal friends who placed letters and communications from and to H. at his disposal. He also had at his command the official papers of H., deposited at the Prussian administration of education. Thus K. admirably succeeded in giving an extensive picture of the life and the works of the great investigator with thorough conception of his extraordinary scientific importance and the harmonious trend of thought and action of the human side of this superior man. Ophthalmologists will feel particularly benefited and rejoiced by the study of the personal and scientific development of this great man, who inaugurated a new era of our science by his invention of the ophthalmoscope and his admirable hand book of physiological optics. The book is very handsomely gotten up, one of the heliogravures is made after a daguerrotype of 1848 and one after the portrait by Lenbach of 1876.

C. ZIMMERMANN.

TEXTBOOK OF OPHTHALMOLOGY. Axenfeld, Theodor, Professor, Freiburg i. Br., in conjunction with Professors L. Bach, Marburg; A. Bielschowsky, Marburg; A. Elnig, Prag; R. Greef, Berlin; L. Heine, Kiel; Hertel, Strassburg; i. E., E. von Hippel, Halle; E. Krückmann, Berlin; Oeller, Eerlangen; A. Peters, Rostock; Stock Jena. Third edition, 761 pp., with 12 lithographic plates, 3 in color print, and 554. mostly colored, illustrations in the text. Jena. Gustav Fischer. 1912. 15 M. \$3.75. 3 editions in 4 years attest better than words the usefulness of a textbook. Now we take great pleasure in announcing the appearance of the new edition of this, in the best sense of the word, modern work. Under the able management of the celebrated editor and by mutual critics of the collaborators the text has been remodeled and completed in accordance with the progress of ophthalmology, by which the number of pages has been increased from 700 to 761. Numerous new pictures, illustrations of operations and one of Oeller's plates, representing anemic retinitis, have been added, thus enhancing the practical value and hand-someness of the splendid work.

C. ZIMMERMANN.

The Wisconsin Medical Journal

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ORIGINAL ARTICLES

THE TREATMENT OF PARESIS IN THE LIGHT OF RECENT DISCOVERIES

BY W. F. LORENZ, M. D.,
MENDOTA, WIS.

Noguchi and Moore's¹ discovery of the *treponema pallida* in the brains of parietic subjects makes needless the conception of para-syphilis. The relationship of syphilis to paresis, and tabes as well, has been a much disputed question for many years. As early as 1857, Jessen and Es-mareck² maintained that syphilis was of etiological importance. Statistics, at the best unreliable, seem to favor their belief, yet many authorities then and since held that the presence of primary syphilis was simply incidental and held no causal relationship in the development of these nervous disorders. Of late years with the advent of the Wassermann reaction and the work of Mott, Plaut and others, the position of these dissenters became almost untenable, yet no decisive proof existed until the recent discovery of Noguchi and Moore, whose findings have since been corroborated by Marie, Levaditi and Bankowski³.

The lapse of time between the initial infection and the onset of the nervous manifestation has, in a measure, been the stumbling block for those holding the view that syphilis was the cause of paresis and tabes. To bridge this interval of ten or more years during which time the primary condition remains apparently dormant, Fournier conceived an intermediary state during which toxins developed as the result of the original syphilitic condition, these toxins in turn affecting the nervous system and bringing about the entities we recognize as paresis and tabes. The finale of this theoretical intermediary and unknown condition was given the name of parasymphilis or metasyphilis. Such a terminology is no longer necessary and as Pulitzer⁴ has remarked we now see "the passing of parasymphilis". In other words paresis at least has been definitely brought within the

scope of syphilis and it is probable that equally conclusive findings will be found in tabes.

The importance of this epoch-making discovery, aside from ending all further dispute as to the etiology of these conditions, lies in the treatment of the actual condition as well as the prophylaxis. At this point, however, emphasis is laid upon the fact that both Noguchi's eases and those from Marie's clinic were fairly early parietics. It is probable that later in the course of paresis the organism will not be found, and this may also account for the fact that the organism has not as yet been found in cases of tabes. This will be understood when it is recalled that tabetics, as a rule, live many years after the stage of extensive nerve degeneration has occurred and it is probable that at this late date, the organisms have to a large measure disappeared. The failure to find the organism in late cases of paresis fits in with other findings, namely, the frequency of a negative Wassermann late in the course of paresis. We assume that a positive Wassermann means the presence of the syphilitic organism. Another finding furthering the belief that the *treponema pallida* is probably not present late in paresis is the decrease of the spinal lymphocytosis during the later stages of paresis. It has been our experience that the earliest cases showed the most marked lymphocytosis and that the older and more advanced conditions showed relatively little lymphocytosis. The globulin content of the spinal fluid, which is invariably high in the earliest cases that come under our observation, was noticed to be lower in the late parietics. From these findings, one would infer a less active response on the part of nerve tissue during the final stages of paresis.

While the syphilitic organism has been isolated in the brains of parietics yet vast as this information is, it does not tell us when the process begins. Maintaining that the effect of treatment depends mainly upon its early application, the first problem is the early recognition of paresis. For this early recognition, we cannot depend solely upon characteristic symptoms in either the motor or

psychic fields. Upon the first intimation of any nervous derangement whatsoever in an individual who previously had syphilis, we must at once suspect the possibility of paresis in its infancy. This early recognition is possible if we bring to our assistance the data obtained as the result of an immense amount of laboratory work during the last few years. Certain signs have been shown to be present in nearly 100 per cent. of the cases of paresis and a particularly valuable finding is that *early* in paresis these signs are especially marked.

The actual technique necessary to establish the presence or absence of the signs referred to is certainly not beyond the ability of any general practitioner. A suitable aspirating needle,—the observance of ordinary aseptic precautions, with just a little experience will place at his disposal spinal fluid. This can in part be readily examined with the facilities at his command, while the more technical examination, the Wassermann, must be made in a laboratory equipped for this purpose. At this point it may be of interest to mention a recent test, the so-called "Gold Sol", introduced by Lange and first employed in this country by Sippy⁵. This test requires no extensive technique. It is the simple addition to a colloidal gold solution of spinal fluid at various dilutions. After twenty-four hours, degrees of discoloration are noted and depending upon the extent of color change for a given amount of fluid, a result is read. This test will possibly supplant the Wassermann in so far as the spinal fluid is concerned. If the early predictions as to its delicacy in the detection of syphilis of the nervous system hold good, then the general practitioner can make a complete examination of the spinal fluid without the aid or expense of a specially designed laboratory.

The signs referred to which are of immeasurable value in the detection of syphilis of the central nervous system are, pleocytosis of the spinal fluid, increase of its globulin constituent, and the Wassermann reaction or probably the Lange colloidal gold test. If all of these tests are positive, no doubt should exist as to the presence of syphilis of the nervous system, that is, excepting such conditions as poliomyelitis or any of the septic meningitides. With these tests positive and the exceptions held in mind, the indication is active treatment by our most effective antisyphilitic measures.

The advent of salvarsan stimulated the efforts of those dealing with syphilitic conditions. De-

spite Ehrlich's early caution as to the advisability of using this preparation in these later manifestations of syphilis, many investigators resorted to his remedy in the treatment of paresis and tabes. At first unfavorable reports appeared in the literature. Later, however, with closer observance as to technique, and an undeniable finding that the second and later injections are better borne than the first, brought about a change of attitude, until today no one hesitates to recommend salvarsan or neosalvarsan in the treatment of these conditions. The question has arisen, when is this treatment of these conditions inadvisable? In general an intact circulatory system with sound kidneys has been the only assurance necessary. The stage of the malady has not affected our use of these preparations, though it must be added that a hopelessly advanced parietic was of course out of the question, since it is not assumed by any one that nerve cells once destroyed can ever be replaced by equally specialized tissue. Excluding these far advanced conditions and those cases in which focal lesions exist, a series of injections of Ehrlich's remedy is indicated.

The frequency of injections now becomes a question and here many different views are held. The early belief that a single injection would completely sterilize an individual has not been borne out in the light of subsequent experience. It therefore becomes necessary to give repeated injections; just how many and just what the interval between them is not agreed upon. In fact it is not probable that a hard and fast rule will ever cover all cases. In the treatment of paresis and tabes as well, we have not the very evident lesions observed in primary, secondary or tertiary syphilis and the result of treatment is not as visible to the eye. It must be understood that those symptoms in either paresis or tabes that are due to nerve degeneration will not be favorably affected by any antisyphilitic measure. Those symptoms which are due to exudation into the nervous structure on the other hand will in all probability be favorably altered. We must, owing to the relative obscurity of the very early symptoms of paresis, find some other means of noting the effect of treatment and thereupon decide the frequency and dosage of the remedy used. An observation confirmed by myself during the last few years that the treatment of paresis affects in a favorable way the pathology of the spinal fluid indicates that this pathology is

dependent upon exudation rather than nerve degeneration. It has been our practice therefore to use this change in the pathology of the spinal fluid during treatment as a guide for the frequency and intensity of the medication employed.

The constant signs formerly referred to, that is, the pleocytosis, the globulin increase, and the Wassermann reaction, are less positive after treatment and it is therefore advised to examine the spinal fluid from time to time during the course of syphilis and thus learn the effectiveness of the measures used. In general it is not advisable to inject the Ehrlich preparation at intervals of less than two weeks. On the other hand, the repeated injections should not be delayed beyond three months. The following procedure would seem from personal experience to be advisable. After an initial puncture with the positive findings of nerve syphilis, an injection of salvarsan or neosalvarsan is given, by choice the maximum dose by intravenous route. Following the later suggestion of Ehrlich a course of mercury is then given. The injection of the oleate has received personal preference. After a period of one month a second spinal puncture is made and the fluid examined. If this examination reveals a decided effect on the pathology noticed at the initial examination, the conclusion is reached that our measure is effective. In the cases where an improvement was noted, the second injection of salvarsan was given approximately one month after the first, again the maximum dose, followed by mercury. In all the cases thus treated excepting two in which unfavorable conditions were noted in the spinal fluid, a decided and apparently permanent change took place, a change which would denote a halting of the process, as the pleocytosis was much reduced, the Wassermann became negative and continued so, and the globulin constituent was very decidedly diminished.

The series of cases referred to were paretics. Two became sufficiently well to be paroled and now after an interval of two and a half years these two patients are still in an excellent condition. The other patients did not change to the extent of permitting a parole although it is undeniable that the progress of the disease seems to have been arrested, for these patients have now lived beyond the allotted time for paretics in the stage to which they had advanced at the time the treatment was given.

It may be argued by some that the two in whom

the very favorable results occurred were not paretics but cases of cerebro-spinal syphilis. This possibility was entertained by us, yet the spinal fluid as well as the history pointed to paresis. In the first place the infection occurred ten and fifteen years respectively before the onset of mental symptoms. In the second place, they had no peripheral indications of focal lesions in the brain. Thirdly, the clinical manifestations were mainly in the psychical sphere, and lastly the spinal fluid showed a positive Wassermann reaction, and a moderate pleocytosis, whereas in cerebral syphilis, it has been our experience that the Wassermann made with the spinal fluid is negative though the blood serum will be positive. Furthermore, a pleocytosis is the exception in cerebro-spinal syphilis and when it does occur, the cell count runs very high, in the neighborhood of five hundred or more lymphocytes per cubic millimeter.

The treatment of paresis or tabes, since it is our belief that tabes differs from paresis only in that the spinal cord is primarily affected in the latter while the brain cortex is involved in the former, begins in fact at the time of the initial infection. We all know how general is the intoxication from the syphilitic organism; that these organisms reach the brain and cord at this time is not improbable. The early nervous manifestations, those observed soon after the initial infection, may be precursors of paresis or tabes. Attention is drawn to Krebs' findings that 43 per cent. of his one hundred and fourteen syphilitic patients suffered from neurasthenia. These early nervous phenomena may manifest themselves within a few months after the initial infection. The remedy that is then used can be looked upon as a prophylactic measure for the development of paresis or tabes or possibly as a direct medication of these conditions in their very infancy.

It is assumed that in syphilis, as in many other infections, the early reaction of the tissue to the invading organism is in exudation and subsequent to this is the degeneration. Viewed in this light, the earliest manifestations obtained in tabes that is, the various crises, are indications of spinal irritation due to exudation. This accounts for the many reports of recovery from these distressing symptoms of tabes when a case is subjected to powerful antisiphilitic measures. The signs of nerve degeneration, the anesthetics, trophic changes, atony, and ataxia, are not influenced to

any marked degree by medication. In paretics an identical condition prevails. The earliest symptoms are referable to cortical irritation and if treated at this period, the likelihood of benefit is equal. With exudation favorably affected, it is reasonable to assume that degeneration will not ensue. Our findings bear this out, apparently the disease process is halted in its progressive course. If this halting can be secured at an early date, a practical cure will be the result, for the individual will not progress in the downward course familiar to all of us, but will be held stationary at some point in this course. If this stationary period is attained early, the amount of defect may be trivial, at least not of sufficient degree to completely incapacitate the individual.

It is maintained by many that 95 per cent. of those developing paresis never received adequate treatment during the early stages of syphilis. It therefore behooves the practitioner to give the most thorough treatment at his command and continue this treatment until all evidence of active syphilis is absent. The disappearance of skin rash or absorption of gummatous deposits or any obvious clinical improvement is in itself insufficient proof. The criterion in the light of our present knowledge must be the Wassermann reaction. A negative Wassermann in an individual who previously gave a positive finding is highly presumptive of a cure yet the decisive test must not be made inside of one year following the cessation of all anti-syphilitic measures since it is a well recognized fact that immediately after treatment a negative is frequently obtained only to become positive at a later date. If, however, the test continues negative throughout the period of one year following treatment, it can be assumed that a cure has been established. Mettler has shown that but 2 per cent. of all those contracting syphilis become paretics. These statistics were gathered at the time when syphilitids were not treated with the spirilloidal agents of the present day. The inference would seem obvious,—treat the early syphilitid to the extent of a cure, and this is possible in 100 per cent. of the cases according to Rebes and Scholtz⁷, and ten or fifteen years hence paresis will be a rarity.

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POMPEIAN SURGICAL INSTRUMENTS.*

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The poet Horace, who lived shortly before the destruction of Pompeii, has said: "Many things shall be revived which already have perished, and many things shall perish which are now held in honor."

I find this quotation an appropriate motto for an essay on the history of ancient surgical instruments.

In presenting this paper I think it proper to offer an apology for introducing a subject which deviates somewhat from the established rule of a purely medical topic. My theme is rather in the nature of a historical retrospect, a study of the condition of medical science as it presented itself at a time when a tragic fate enwrapped Pompeii in the somber mantle of ashes and cinders for a period of about 1,900 years before the searching hand of a new generation began to remove the horrid and mysterious veil. What it revealed and continues to disclose is both ghastly and inspiring, both pitiful and amazing. On one hand all the horrors attending a sudden wholesale destruction of life, innumerable skeletons of human and animal bodies graphically indicating by the various positions in which they were found their last moments and struggle of life; on the other hand, treasures of incalculable value with regard to ancient art, science and customs.

When toward the second half of the eighteenth century the first excavations were begun the muse of Schiller broke forth in exclamatory strain:

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What wonder here? Of thee, O earth, a fount
 Have we invoked; and from thy somber womb
 What yieldest thou? Is life in the abyss?
 And dwells a new race there till now concealed
 Beneath the lava? Doth the past return?
 O Greeks, O Romans, come; behold, again
 Rises the old Pompeii and reappears
 The long-lost town of Dorian Hercules."

An ancient city—buried and entombed for a period of over 1,800 years and again exhumed and uncovered to the wondering gazes of new generations, totally distinct in their character, views, habits and religion from the inhabitants of that doomed community—this is Pompeii, which fell asleep, remained so while ages passed and has awakened in a new world.

There is no other ancient city with which we have so intimate acquaintance¹. Even the physical aspect of its people, their customs, their household utensils, the mysteries of their worship, everything connected with their daily life, is being presented to us. In vain do we look for such a wealth of traces in ancient cities of a far greater historical importance, as Babylon, Thebes, Jerusalem and even Rome.

Queen among seacoast towns at a time when Rome had reached her highest point of civilization, Pompeii became a favorite resort for the Roman aristocracy, men of wisdom, rank and wealth indulging in pursuit of pleasure and habits of indolence, a light-hearted people, living for the games of the day and the banquet of the morrow.

And as the wandering observer follows in awe-struck thought through the desolate cobblestone-paved streets of the city, peering into its deserted mansions, their walls fresh as if painted yesterday—not a hue faded on the rich mosaics of the floors—in its forum the half-finished columns as left by the workman's hand—in its garden the sacrificial tripod—in its halls the chest of treasure, the furniture and priceless works of sculpture—in its cubicula the perfumes and the rouge of faded beauty—it is within the scope of imagination to conceive the abandoned abodes and public meeting places enlivened by a joyous, light-hearted people following every varying fancy of pastime and passion.

The chief interest, however, of the medical practitioner and student of medical history will center in the House of the Physician—*casa del chirurgo*—so called from a find of a number of surgical instruments in the year 1770 and 1771, which are

now to be found in that palace of antique treasures, the National Museum of Naples.

Whatever vestige of ancient medical science has been brought to light from the ruins of Pompeii is undoubtedly of Greek origin; for, in spite of the subjection of the Greeks to the political power of the Romans, this unique people preserved its old creative activity and power, vanquished its political conquerors in the sphere of intellect and ruled the Romans in the field of science. Children were expected to learn to speak Greek; Greek teachers were invited to Rome, and the foremost Roman writers of the golden age of Latin literature prided themselves on their familiarity with Greek culture as openly as most of Europe did on its familiarity with French in the eighteenth century.

In philosophy, oratory and historical writing the Romans followed the Greeks, as is manifest from Cicero, Seneca and others.

Whatever great works in sculpture and painting the Romans possessed were the creations of Grecian artists; the same holds true of works on mathematics, mechanics, botany, etc. It is, therefore, easily understood that the Grecian doctrines of medical science completely supplanted and checked the development of the scanty germs of Roman medicine proper.² It being an established and generally admitted fact that our present educational system is based for the greater part on the foundation which the ancients have laid, the importance of the knowledge of this basis of our intellectual life is self-evident and the subject claims the earnest consideration of those interested in art, philosophy and natural sciences.

The literature on this subject I have found to be rather limited, the more extensive works on Pompeii giving but a superficial and incomplete mention of the various instruments found.³

Dr. Senn,⁴ in an article on this subject, describes a limited number of the instruments under consideration. The bulk of my information I derived from a masterly, exhaustive treatise by John Milne.⁵

The finds of ancient Roman instruments during the past centuries in Europe have been numerous, but thoroughly scattered, and the instruments herein described form but a small part of a considerable collection unfortunately too much dispersed. A centralized collection would be ideally adapted to furnish the adequate means of thorough comparative scientific research. As it is, there is

scarcely a museum with any number of antique bronzes which does not number among its contents a few surgical instruments, and it is surprising that no attempt has been previously made to systematize and reconstruct the surgical armamentarium of the ancients, instead of merely to issue a series of reports indicating the uses of instruments described.

The most important collections are to be found in the following museums: In England, the British, the Guildhall, the Shrewsbury and Chester museums, many of the specimens in which have been discovered in ancient Roman cities and camps in England; in France, the equipment of Emperor Severus at Saint-Germain-en-Laye, the Louvre, Cluny and Orfila museums, and those in the cities of Montauban, Rouen and Amiens; the instruments found by M. Toulouse in Paris, known as those from the grave of "the surgeon of Paris," are also noteworthy. Museums in Namur, Brussels and Charleroi in Belgium, others in Austria and Athens, the Thorwaldsen Museum of Copenhagen and many museums in Basel, Bern, Schaffhausen and Zurich in Switzerland, contain collections of Greek and Roman instruments very similar in design and intention to the ones under consideration from the museum of Naples.

After these preliminary remarks, which I deem essential for a better understanding of the subject, I proceed to attempt a description of the various instruments reproduced in the accompanying illustrations, which are exact facsimiles of the originals in the National Museum of Naples. These instruments, with the exception of a few additional parts of silver, were made of bronze, a fortunate circumstance for the historian and searcher of antiques, as the metal, on account of its ability to endure oxidation, has withstood the lapse of time. Copper, being much more easily obtained from ore than iron, was first to be used, the Egyptians employing it 6,000 years ago. Hippocrates says: "Use bronze only for instruments, for it seems labored ornamentation to use vessels of it." It is erroneous to assume that the ancients did not make many of their instruments of iron and steel, but the bronze has outlived the iron. The Homeric poems picture a civilization in a state of transition from a bronze to an iron period, and weapons, such as sword, axe and spear, are frequently described as made of iron. Certain instruments, as

the cautery, are always spoken of as made of iron, as the name implies.

The destructibility of iron will easily explain the fact that cauteries, which must have existed in enormous numbers, are among the rarest surgical instruments found. It is not generally known that steel entered into the manufacture of metal implements of the ancient Greeks and Romans, although the steel was made in a primitive manner, which is, however, still in vogue in India and China, where a fine quality of steel is procured. As the terms "iron" and "steel" are synonymous in Latin and Greek, modern writers have been inclined to mistake them for one another.

Other metals were occasionally used, as tin for uterine sounds and probes for rectal work, lead for sounds and tubes for intrauterine and rectal treatment, gold for probes for applying salves to the eyes and separating adhesions of the eye to the lid, for opening pustules of smallpox, for burning the roots of hairs in trichiasis, for binding the teeth together with gold wire in fractures of the jaw. Silver was used in forceps, probes, grooved directors, uterine syringes and catheters.

Judging from the great number of probes and sounds unearthed in many parts of Europe, once under the dominion of the great Roman Empire, we are justified in our conclusion that the *tactus eruditus* was well developed among the medical profession of remote antiquity. Three groups of probes and sounds are presented in the Naples collection as follows: The double simple probe (*specillum*), a plain rod of metal rounded off at either end, tapering at either end to a blunt point (Plate I, Fig. 1). A variation of this probe is the *specillum* with two olivary ends (Plate I, Fig. 2) frequently mentioned by Galen and Paul of Aegina, who, in speaking of fistula, says: "We must first examine them with a sound if they be straight or with a very flexible 'double olive,' such as those made of tin or the smallest of those made of bronze, if they be crooked." He also refers to its use as a cautery to destroy the roots of the ciliary hairs after epilation. The second group embraces a class of probes similar to the ones just described, one end of which, however, having the shape of a typical spoon, a variety not specially mentioned by any classical writer. It has the same oval nucleus at one end as the simple probe, but the other end widens into the form of a spoon either round or oval shape (Plate I, Figs. 3 and

4), which probably served the purpose of curettes and to mix and apply medicaments. It seems from the large number of similar instruments being found that they were used for lay as well as for medical purposes. Many of them are toilet articles. An interesting discovery of two typical specimens in the grave of a lady artist was made in Vendée in 1847, where, among a number of color-pots and alabaster mortars for mixing colors, was an étui similar to the typical cylindrical instru-

going instrument is a spoon about 5½ inches in length, having a bowl nearly one inch in diameter (Plate I, Fig. 6). The instruments shown in Plate I, Figures 7 and 8, were found together. The handles of both are bronze; the scoop and spatula parts are of silver. Vulpes describes these as a lancet for drawing blood and a spoon for collecting and examining the same. These, like those previously mentioned, however, were used for mixing and spreading medicaments, as it is impossible

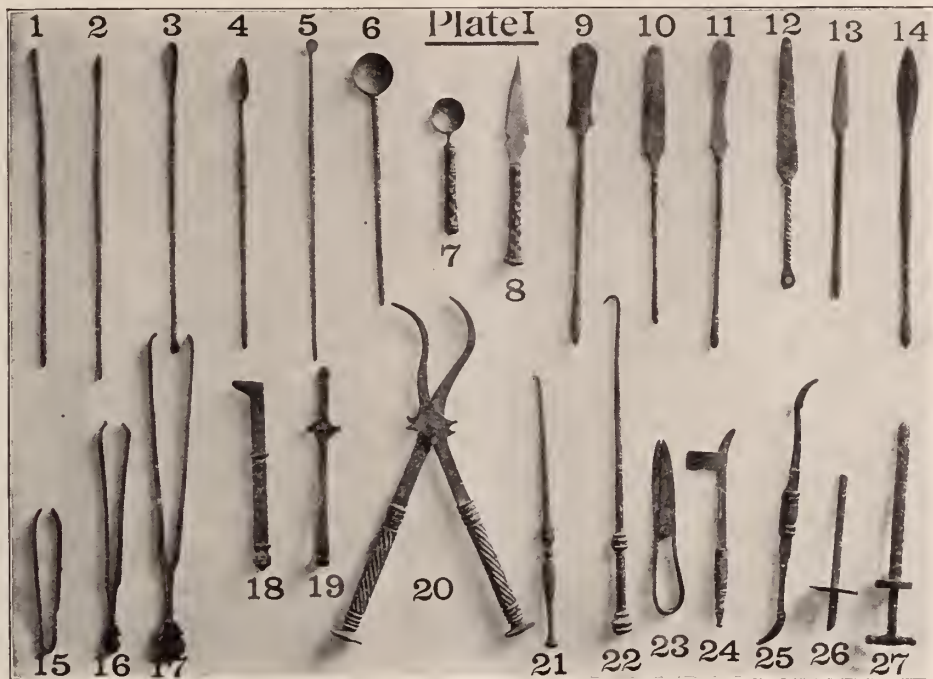


PLATE I.

ment case of the ancient surgeon, in which were two spoon probes similar to the ones under consideration. Their great resemblance to the Volkman curette is self-evident.

On close inspection it will be noticed that the shaft of No. 3 is prettily ornamented with longitudinal and spiral fluting. Some have been found with a silver band inlaid in a spiral around the shaft or even entirely gold plated. A third instrument of this class, a ligula type of speillum (Plate I, Fig. 5), is strictly speaking not a surgical instrument, as it seems to have been used by the laity and no doubt also by physicians for making applications to affected parts or extracting from tubes and box ointments, balsams and powders which entered so profusely into the mysteries of the Roman lady's toilet. Related to the fore-

to regard an instrument of silver as a cutting instrument.

The third group comprises the spatula probe (Latin, *spathomele*; German, *Spatelsonde*; Plate I, Figs. 9, 10, 11, 12, 13, 14). Almost every writer mentions the spathomele. It consists of a long shaft, 6 to 7 inches in length, with an olivary point at one end and a spatula at the other. It was a pharmaceutical rather than a strictly surgical instrument. The olive end was used for stirring medicaments, the spatula for spreading them on the affected parts or on lint. With it ointments were applied and again scraped off. The very large numbers in which they are found would indicate that their use was not confined to medical men, as they seemed to have been used by painters to prepare and mix their colors. Although the olive end

of the spathomele was too large to admit of its use as a probe for small lesions, it is evident that in exploring large cavities it must have been a valuable instrument. Priscianus alludes to plugging the nares with it, and Leonidas mentions it as a tongue depressor, while Soranus refers to it as a cautery. All of the specimens have the characteristic oar-blade shape, though the outlines vary greatly. In some (Figs. 9, 10 and 11) the blade widens out at the end, so that the tip is broad and rounded; in others the blade slopes to a rounded point or is even pointed (Figs. 12, 13 and 14). The ends of the blade are usually thick and blunt, although some thin and sharp ones have been found, almost suitable for cutting. It is of interest to note in the spathomele (Fig. 12) an eyelet at the proximal end, indicating perhaps the attachment of a handle. This arrangement is followed out in a number of ancient instruments, especially of scalpels (of which unfortunately I was unable to obtain a specimen), in which the knife and handle were not forged in one piece, but united by something very like our aseptic joint. Hippocrates insists on the importance of keeping everything in surgery absolutely clean.

Among the various kinds of forceps the simplest forms consist of a strip of metal bent on itself with the jaws turned inward (Plate I, Fig. 15) and the more elaborate and stronger one (Fig. 16). These seem to have been the typical forceps for epilation, a cosmetic custom which has come down to us from prehistoric times and seems to have been prevalent among all primitive races. In the bronze age the hair was fixed with a broad-jawed forceps and cut off close to the skin by means of a knife or "razor," although no doubt ordinary epilation for superfluous hair was practiced, also as a purely surgical operation for trichiasis consequent on the granular ophthalmia which was so common among the Romans. Several of this type were found in the grave of the oculist Gains Severus at Rheims. A variation of the above epilation forceps is a large powerful instrument, 7 inches in length (Plate I, Fig. 17), which no doubt has been used as a dissecting or tumor vulsellum, the end of the blades being toothed. It was used whenever it was desired to make traction in any subject, and is mentioned by various writers in excisions of the clitoris, of malignant excrescences, of epulis, of hemorrhoids, etc.

A specimen of forceps which corresponds some-

what to our modern fixation forceps is shown in Plate I, Figure 18, in which the jaws turn to one side at an obtuse angle in a fairly sharp point, concave internally and convex externally. A sliding ring, quadrangular in shape, fixes the jaws after they have been applied. This angled type of forceps may be the one referred to by Paul in his description of the plastic operation on the eyelid for trichiasis, when he directs to raise the redundant skin of the lid with the fixation forceps and cut it off with a scalpel.

The instrument shown in Plate I, Figure 19, resembles a forceps, the unfinished condition of the tips of the handles indicating that they had been inserted into the handles of wood; it seems better suited to grasp some substance inside the bow than between the jaws, and is assumed by Dr. Milne to have been used to extract calculi from the bladder.

An excellent specimen of a sequestrum forceps was found in the House of the Physician. It is 8 inches in length and formed of two crossed branches on a pivot (Plate I, Fig. 20). The handles are square; the jaws are curved and have across the inside of them parallel grooves which oppose each other accurately. It is classed in the catalogue as an instrument for crushing calculus of the bladder. This is, however, not a manipulation described by the ancients. The only case in which splitting of calculi is referred to is described in Celsus, and then a chisel is said to have been used. Again, this forceps, known as the Pompeian forceps, has been looked on as a tooth-extractor. Although its shape is not otherwise unsuitable for this purpose, its jaws are not particularly adapted for seizing a tooth, as they are not hollowed inside. Whatever the shape of the Græco-Roman forceps was, it seems to have been a handy instrument for many different manipulations. The graceful form of the instrument with its artistically fluted handle is another example of the happy faculty of the ancients of combining the beautiful with the useful. Hooks, blunt and sharp, are frequently mentioned in both Greek and Latin literature and served the same purposes as those for which we use them, the blunt for dissecting and raising blood-vessels like the modern aneurism needle, the sharp for seizing and raising small pieces of tissue for excision and for freeing and retracting the edges of wounds (Plate I, Figs. 21 and 22). In the Naples Museum alone there are upward of forty examples of hooks.

Scissors (Plate I, Fig. 23) made of steel or bronze are common objects in museums, and their use is referred to by various old writers. Oribasius and Celsus refer to cutting the hair as a therapeutic measure. A few references are made to the use of the shears for cutting tissues, as by Celsus in abdominal injury with protrusion of the omentum, for the radical cure of hernia and the removal of warty excrescences.

The instrument shown in Plate I, Fig. 24, in the catalogue is termed a flammete or fleam for

Fig. 25): "It is an instrument of steel, about seven to eight fingers'-breadth in length, of moderate thickness that it may not bend during the operation, with its extremity sharp, broad and somewhat curved." It is 6 inches in length, both ends curved, while one is flattened and the other pointed. A similar instrument was used by Paré for levering up depressed bones; and from what Galen says it may have been used for levering out teeth. That the ancients were intimately acquainted with the surgical treatment of empyema

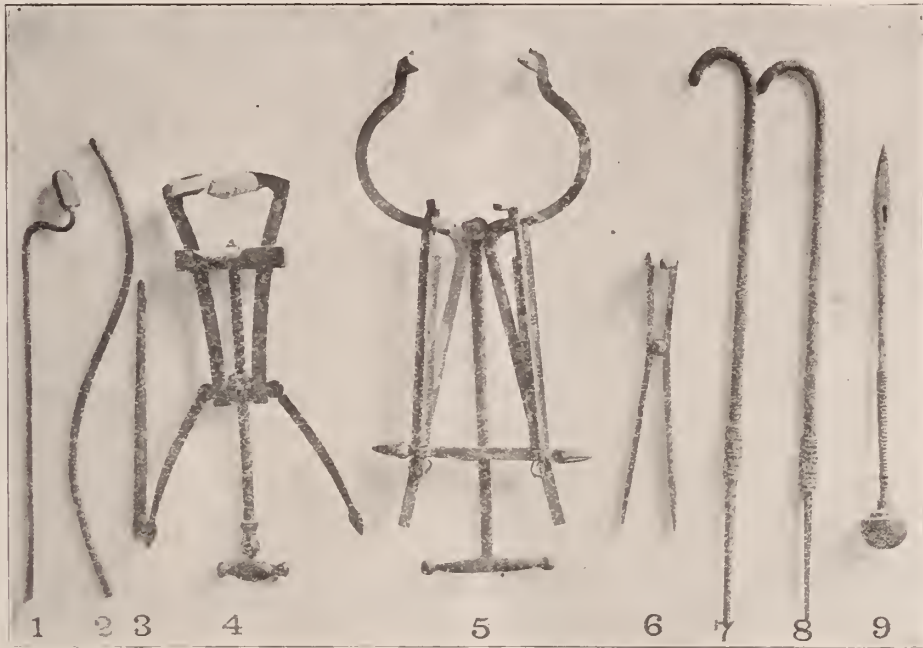


PLATE II.

veterinary purposes. As the offices of surgeon and veterinarian were often filled by the same individual in Roman times, it is probable that such an instrument was used by the physicians for the operation of phlebotomy. Although venesection is one of the most frequently mentioned operations and the phlebotome so mentioned, there is absolutely no description of this instrument. Galen has three treatises on the subject, and Hippocrates frequently mentions it. The phlebotome was used for all sorts of operations, opening of abscesses, puncture of cavities, fine dissecting work, fistula lacrimalis, removal of warts, phimosis, dissection of sebaceous cysts, etc.

The following description of Paul of Ægina (A. D. 625) corresponds to one of the two bone levers in the Naples Museum made of bronze (Plate I,

and ascites is shown by two instruments of the collection (Plate I, Figs. 26 and 27), both representing cannulas very similar to the ones in use at the present day. The plain, small one consists of a bronze tube, $3\frac{1}{2}$ inches in length, beveled off on one end. This instrument answers the description of Celsus. The more elaborate form of the cannula for ascites is seen in the other specimen, a tube $3\frac{3}{4}$ inches in length, one end rounded off and closed except for a small hole near its tip, the proximal end carrying a circular plate, $\frac{7}{8}$ inch in length, which carries on its end a small handle attached in a T fashion. To all appearances the cannula was to be inserted after an incision was made by a scalpel, to be closed after the abstraction of a certain amount of fluid. Hippocrates says:

After opening let pus out once a day. After the tenth day when everything has been evacuated, flush with wine and tepid oil. At night let out what you have put in and when the pus becomes thin and watery insert a hollow thin tube.

Related to the foregoing cannular instruments is a tube of bronze, $5\frac{3}{4}$ inches in length, $\frac{3}{8}$ of an inch wide at one end and gradually narrowing to $\frac{1}{8}$ of an inch. It was often made of lead or tin; it is referred to by Hippocrates over and over again. It was used to prevent contractions and adhesions after operations on the nose, rectum, vagina, etc. Hippocrates mentions its use after dilatation of the cervix uteri. The small opening half an inch from the end probably was for the purpose of drawing or applying medicaments (Plate II, Fig. 3).

The instrument illustrating the well-known subject of actual cautery, which was employed to an almost incredible extent in ancient times and on which surgeons expended much ingenuity of device, is a tile-shaped cautery (Plate II, Fig. 1) of bronze (although iron was also employed) and was used as a counter-irritant, as a hemostatic, as a bloodless knife, as a means of destroying growths and tumors, etc. Other forms of cautery mentioned are the cautery knife, a trident olivary cautery for operations on the eye and nose, a gamma-shaped, an oval-shaped, a lunated, a nail-shaped, a button-shaped, wedge-shaped and needle-shaped cautery. Hippocrates also mentions a cautery guarded by a tube for operations of hemorrhoids and polypi of the nose. The catheter was in common use in ancient times and is frequently alluded to. This collection includes a male catheter, 10 inches in length (Plate II, Fig. 2), with two gentle curves closely resembling the instrument reintroduced by Petit in the eighteenth century and corresponding in size to No. 11 American.

It seems to have been the only perfect specimen found, other finds at a Roman military hospital in Baden being but fragmentary. Also a female catheter (Plate II, Fig. 3) is mentioned in the catalogue, which, however, so closely corresponds with a previous description of a dilator (Plate II, Fig. 3) that I am in doubt as to the correct classification, especially as Dr. Milne mentions a female catheter about 4 inches in length (which is, however, not represented in this group) in the Pompeian collection.

Of the two vaginal specula of this collection the

first discovered was found in the House of the Physician (Plate II, Fig. 4). The blades are at right angles to the instrument and when closed form a tube the size of the thumb; on turning the screw a cross-bar forces the two upper blades outward till sufficient dilatation is obtained for operative purposes. The diameter of the tube, at its maximum of expansion, is about $3\frac{1}{2}$ inches, the speculum being 9 inches long. Lately a speculum similar to the foregoing has been found in the ruins. The third speculum in the Naples collection, discovered in 1882, is similar to the foregoing, but has quadrivalve priapiscus (Plate II, Fig. 5). Its length is about 12 inches; on turning the screw the lower blades are drawn downward, at the same time separating slightly, while the other blades diverge also. It may be noted that the screw in the three-bladed instrument is a left-handed one, while the four-bladed one is a right-handed. This instrument is in a high state of preservation; its construction is uniform and well proportioned, and as a curious fact it may be observed that in its various dimensions it observes constantly the metric measurement. The earliest mention of the rectal speculum is to be found in the treatise on fistula by Hippocrates--"laying the patient on his back and examining the ulcerated part of the bowel by means of the rectal speculum"; also its use in the treatment of hemorrhoids is mentioned by him.

The two-bladed instrument was used to dilate the vagina as well as the rectum, and received its name, "small dilator," in contradistinction to the other vaginal speculum, which was worked by a screw and was called the *speculum magnum*. According to Galen, the anal dilator was called *catopler* and the female dilator the *diopter* (Plate II, Fig. 6). Included in the obstetrical instruments are two traction hooks, 12 inches in length and $\frac{1}{4}$ inch in diameter, the form of their handle ends indicating a former existence of a bone or ivory handle. They resemble very much the blunt hook of the English obstetrician, William Smellie (1680), and its well-known modification, the decapitation hook of C. Braun, of Vienna (Plate II, Figs. 7 and 8).

The spike-shaped, dagger-like instrument (Plate II, Fig. 9), nearly 9 inches in length, the distal end resembling a large flat needle and the handle ending in a solid, heavy hemisphere, apparently answers the following description by Tertullian:

There is also a bronze stylet with which a secret death is inflicted; they call it the feticide from its use in infanticide, as being fatal to a living infant. Hippocrates had this instrument, Asclepades and Erasis-tratus and of the ancients, also Herophilus the anatomist, and Soranus, a man of gentler character, who, being assured that a living thing had been conceived, mercifully judged that an unfortunate infant of this sort should be destroyed before birth to save it from being mangled alive.

I doubt whether this description applies correctly to this particular instrument, as it will not explain the large eyelet, which would indicate its use as a seton-needle.

A meditative glance over the instruments of this collection and similar ones gives the impression that surgery at the time of the destruction of Pompeii was confined, to a great degree, to minor surgery, and that the art of surgery in respect to more important operations, as indicated by the description of operations and instruments, compared with modern achievements, was coarse and undeveloped. Truly we find that at this period Cæsarean section, extirpation of the uterus, laparotomy, lithotomy, excision of the kidneys, herniotomy, and plastic operations were performed, but that the limited knowledge of anatomy and physiology was a hindrance to successful major operations.

To antisepsis and anesthesia are due a complete revolution of earlier methods and complete reversal of mortality statistics; to these discoveries the human race owes more of the prolongation of life and relief of suffering than can be estimated or expressed in words.

Little by little during the past ages the building-stones were added to the foundation laid by the ancients in the construction of our present monumental edifice of modern surgery, in spite of innumerable hindrances incited by ignorance and malice, until now at the beginning of the twentieth century "the seeing portion of healing art," as Chamisso terms it, is approaching an exact science to which every other branch of science has been made tributary.

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THE USE OF THE MICROSCOPE BY THE GENERAL PRACTITIONER.*

BY DANIEL HOPKINSON, M. D.,

MILWAUKEE.

To the clinical laboratory must be given credit for a great part in the progress of modern medicine, especially in diagnosis and differential diagnosis.

The young practitioner depends largely upon these newer and more recent methods for his ability to diagnose. The old practitioner shows his progressive nature by keeping in touch with the newer findings, even though his large empirical knowledge may often be personally sufficient to replace the laboratory adjunct necessary to the young practitioner.

We too frequently find that a physician, after a few years' practice, neglects the significance of microscopic aid in diagnosis, attempting to replace it by certainly more variable empirical observation. A certain amount of discarding may be wise, as personal observation may have proved the unreliability of some of these teachings. A certain amount may be due to lack of time to devote to laboratory technique, but the almost entire neglect of this link in the diagnostic chain in the routine diagnostic procedure is neither a saving of time nor excusable at the present time.

How often we meet with cases, apparently demanding repeated physical examination in order to clear up the diagnosis, which remains still undecided after all our labor, wherein the application of some simple laboratory test would at least have pointed to the condition existing, if not entirely cleared up the diagnosis.

It is the application of these easily conducted clinical tests that often lightens the burden of differential diagnosis, leading to a clearer understanding of the conditions that we are dealing with. It is not newer methods and better technique that we are so much in need of, as the necessity for more frequent application of those simpler tests that consume little time and do not necessitate special laboratory training.

If these laboratory findings were all positive, dead-sure, diagnostic signs, this condition of neglect would undoubtedly not exist. They are, however, but one link in the chain of evidence, often

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as variable as other clinical evidence, and must be weighed accordingly. The busy practitioner has not time to enter into the complicated tests that are conducted in clinical laboratories. These should be reserved for the man who devotes special energy along these lines. There are, however, many readily made microscopical examinations, requiring but little time and no special training, that may be applied by any physician in doubtful cases and it is to these that I wish to refer.

Examination of the Blood. Blood is the one tissue in the body to which we have ready access for examination during life. It is also a tissue which is in relation to all other tissues and undergoes modification both chemical and morphological during disease, either local or general. This in itself would suggest that through the examination of this structure, much light might be thrown upon underlying conditions. While complete examination of the blood, that is a counting of the red cells and white cells, taking the hemoglobin percentage, and the study of the stained and fresh preparations may be a preferable procedure, the time consumed in routinely making this examination, and the necessary training required, might often be an objectionable feature to the general practitioner. Much knowledge of diagnostic significance, however, may be gained by a study of the fresh blood smear and stained preparation, as a microscopical examination of the stained specimen is often the most important part of the blood examination.

In order to obtain a specimen of value for study the cover glass method or slide glass method may be used. The slides are much easier to handle and I believe this is the preferable method. The surface of the slide is touched to a drop of blood oozing from the puncture and the edge of the second slide is drawn at an angle of 45 degrees over the surface and the blood spread along the slide as thinly as possible. The more rapidly this is drawn across, the better the film.

Should a fresh specimen be required for immediate examination for the presence of parasites, for example, the malarial organism, the cover glass may be placed over the drop of blood and allowed to gravitate, but no pressure should be applied to the cover glass, as this will often cause deformity of the cells. The staining of the blood film is very simply and rapidly accomplished. Either the Wright, Jenner, or Goldhorn stains may be used.

In using Wright or Jenner stains, previous fixation of the specimen is not necessary, for these stains contain methyl alcohol which fixes the blood. With the Wright stain the technique is as follows:

Cover the preparation with the stain about 30 seconds, now add a few drops of water until a metallic scum appears on the surface of the diluted stain. Allow to stain 3 or 5 minutes, wash off in water, dry with filter paper. The preparation is now ready for study. In using the Wright stain distilled water must be employed.

The Goldhorn stain requires a previous fixation of the blood with absolute alcohol for 15 seconds. It does not need to be diluted nor require distilled water for diluting. These staining solutions are very cheap and may be bought from any of the laboratory supply houses for about twenty-five cents an ounce, which amount will be sufficient to stain several hundred specimens. The stained specimen, following any of these methods, gives a beautiful blood picture, the various types of leucocytes being well differentiated. The nucleated red cells are readily recognizable as well as the color staining of the non-nucleated. Parasites are also stained by these methods.

In the study of the blood film we meet with two forms of clinical interest: First, those findings that are pathognomonic of certain diseases, for example the malarial parasite, the differential count of the leukemic blood, and frequently the typical pernicious anemia picture. But as Cabot says, there are probably not more than five or six diseases in which the blood examination gives us the diagnosis ready made.

Second, and more frequently, suggestive changes which when associated with other findings may prove essential in establishing a diagnosis. It is often of the greatest diagnostic value to know that the blood is morphologically normal. To illustrate: in a case simulating pernicious anemia, chronic nephritis and cirrhosis of the liver, absence of the blood picture of pernicious anemia would be sufficient to exclude this condition.

A differential count of the white cells of the stained specimen often leads to a suggestive diagnosis, either negatively by exclusion, or by positive findings. For instance, in a case presenting glandular enlargement, either local or general, the question will often arise, are we dealing with leukemia, Hodgkin's Disease, or tuberculosis. The blood smear will readily decide the presence or

absence of leukemia. Similarly in enlargement of the spleen the question arises, are we dealing with a splenic tumor, a malarial spleen, or a leukemic spleen. Here the leukemia may be diagnosed or excluded by the blood smear, the malarial condition, if not by the presence of the organisms, by the pigmentation of the white cells. Trichinosis is frequently suggestively diagnosed by the great increase in the percentage of eosinophiles. Intestinal animal parasites are also accompanied by eosinophilia and may often be suspected by these findings. A marked increase in the percentage of polymorphonuclear cells in the blood smear may suggest those forms of infection accompanied by leucocytosis, while an increase in the lymphocyte percentage, suggests forms not accompanied by leucocytosis.

It must be remembered, however, that negative findings do not always rule out the condition suspected, as the absence of malarial organisms at the first examination does not absolutely exclude a malarial infection. Also all suppurative conditions are not always accompanied by leucocytosis. The stained smear will also give us the picture of chlorosis, this condition being recognizable by the diminution in the size of the red cells and the pallor of the same.

Microscopical Examination of the Urine. While chemical tests of the urine are very frequently made, microscopical examination is often entirely neglected, even though the use of the microscope frequently leads to the diagnosis of the seat of the lesion in the urinary tract. How often we find that the presence of albumen in the urine is considered indicative of the presence of nephritis, unsupported by any microscopical examination, when if a microscopical examination should be made the source of the albumen might be readily determined by the morphological constituents, and in many cases would demonstrate that no lesion existed in the kidneys. In many cases a differentiation between appendicitis and renal colic may be made by the microscope, where a physical examination fails.

How frequently we are undecided as to the constituents producing cloudiness of the urine—whether we are dealing with pus or a crystalline precipitate is the question. This can be readily cleared up by a simple microscopical examination.

As to nephritic conditions a microscopic exam-

ination is one of the essential links in the clinical data.

Examination of the Feces. Many cases of obscure nature with varied symptoms, such as we find presenting themselves in individuals suffering from intestinal parasites, might be cleared up by a microscopical examination of the feces for the presence of ova. I would suggest to one not familiar with the size and form of the ova of the tape worm, that a few segments of this parasite be kept in formalin and the ova squeezed out of the segment between two slides and used as control at the time of the examination. To illustrate one of the conditions that might be simulated by the presence of tape worm within the digestive tract, I will cite the following case:

A woman of about 50 years of age was apparently suffering from gall stone colic, giving a history of having had frequent attacks of this condition accompanied by jaundice. The present attack was accompanied by jaundice. Microscopical examination of the feces showed the presence of ova of tenia. Appropriate treatment was given and a tape worm expelled, with no subsequent attacks of gall stone colic.

The finding of pus not recognizable by the naked eye and also the finding of blood is often suggestive of the condition existing in the intestinal tract.

Diphtheria. In the diagnosis of diphtheria very frequently a smear from the swab will contain organisms in sufficient number to be recognized, thus making the diagnosis immediate. If, however, the smear be negative and a cultivation of the organism necessary, an incubator is not essential. The culture tube may be placed in the axilla of the patient for 12 hours, at the end of which time examination of the growth may be made.

Sputum. The microscopic examination of the unstained sputum should not be neglected as this will often be of diagnostic value. The finding of pigment cells indicating venous congestion; the finding of the ray fungus in the unstained sputum will clear up the diagnosis of an unsuspected case of actinomycosis. The sputum may be routinely stained as for the purpose of staining the tubercle bacillus, as this method will demonstrate most bacterial organisms that may be present.

We very frequently find that pneumonias not caused by the pneumococcus, terminate, not by resolution, but by the various sequelae, such as abscess of the lung, empyema, etc., that follow in

the path of the acute exudative inflammations of the lung, therefore, an early recognition of these organisms will lead us to suspect the probable termination and put us on our guard in giving a prognosis.

Suppuration. In suppurative wounds, especially in chronic sinuses leading from the bones the purulent material should be examined both fresh and stained, for many cases of actinomycosis might be diagnosed much earlier if this procedure were followed.

Syphilis. The early diagnosis of the initial lesion of syphilis has been made possible by the recognition of the presence of spirocheta pallida, thus obviating the necessity of waiting for the development of secondary lesions before instituting anti-syphilitic treatment, as we know that many simple non-specific lesions will respond to this treatment, and should no secondary lesions develop we are constantly in doubt as to the correctness of the original diagnosis.

The specimen should be obtained by thoroughly cleaning the surface of the lesion, and the superficial necrotic or exudative covering should be removed by means of the curette or scalpel. The serum which exudes from the deeper portions should be smeared over the slide. There are several methods of staining, two of which are very simple and require but a short time.

First, the India ink method of Burri. The drop of serum obtained is mixed with an equal amount of India ink, spread over the slide and allowed to dry. The specimen is now ready for examination. Bacteria appear as white, unstained rods or dots, and the spirochetes, if present, as white spirals. The rest of the field appears as a dark, brownish background. This technique, as one can readily see, is very simple and will often serve for the detection of the organism.

The second method I would suggest is the Goldhorn stain. The smear is fixed for 15 seconds in methyl alcohol, washed in water and the stain applied for 30 seconds. The stain is now drawn off and the slide immersed in water, smear side down. After ten seconds, thoroughly wash in water. Now cover with Gram's solution from 10 to 20 seconds, wash in water and dry. The spirochetes will show as violet spirals.

The simplicity of this technique will readily appeal to one searching for this organism. The Giemsa and other modifications of this stain re-

quire a great deal of time to complete the staining process; this method must be followed, however, if the above technique gives negative results.

In conclusion it would seem that there is not any more reason for the general practitioner neglecting to make these microscopical examinations, because he is in the habit of sending specimens to the laboratory for more complicated tests, than there is for the physician to treat a scalp wound without regard to asepsis because he is accustomed to call in a surgeon to perform a hysterectomy.

THE THERAPEUTIC USES OF THYROID EXTRACT AND SALVARSAN.*

BY J. K. CHORLOG, M. D.,
MADISON.

The physiological functions of the thyroid may be summed up as follows: Its perfect secretion is necessary to the growth of the body in childhood; it is necessary for normal mental ability; it is necessary for proper nitrogenous metabolism; it is necessary for the proper development and distribution of fat; it is necessary for the proper development of the genital organs and their secretions, for normal menstruation and normal pregnancy; and to prevent nitrogenous toxemias.

When an individual does not have normal thyroid secretion, his mental ability is impaired, and the administration of thyroid substances will improve the condition. Disease of the thyroid may cause some melancholic insanities and such insanities improve under proper thyroid medication.

Thyroid will increase nitrogenous metabolism and nitrogenous waste as shown by the excretion of nitrogen in the urine. Where the kidneys do not excrete sufficient nitrogen, the feeding of thyroid will greatly improve this condition. Also in puerperal eclampsia, and in uremia from kidney insufficiency, where nitrogenous toxemia is the cause, thyroid feeding will often prevent the cerebral toxemia, and may aid in curing the condition.

In the condition known as myxedema the body weight increases rapidly by large deposits of fats. This condition, which comes on usually during or after the climacteric and is also observed in women when the menstruation ceases without any known cause, is greatly benefited by the administration of

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thyroid as the malady is due to an insufficiency in the secretion of the thyroid gland. The contrary condition prevails in Graves disease, or exophthalmic goitre.

The thyroid should be fully developed at the age of puberty. At this age when it does not properly functionate amenorrhea is the result, and if it over-secretes menorrhagia is the consequence. The anemic condition known as chlorosis frequently comes on at this age and bears a close relation to the improper functioning of the thyroid, and the administration of thyroid is often more efficient than iron. During pregnancy the thyroid enlarges, and this healthy enlargement is necessary to the proper development of the fetus and for the prevention of nitrogenous toxemia from the double metabolism of both mother and child. At the menopause when the thyroid does not diminish its secretions, troublesome symptoms appear such as hot flashes, vasomotor dilatation, nervousness, breathlessness, sleeplessness, and palpitation.

Thyroid secretion has a constant activity in lowering blood pressure and the administration of thyroid will accomplish the same.

The administration of thyroid will increase the nitrogen, sodium chloride, and phosphorus excretion in the urine.

The thyroid activity is decreased, perhaps after its primary stimulation, in infectious diseases, tuberculosis and chronic alcoholism. Circulatory disturbances accompanied by passive congestion cause a diminution in the thyroid substance.

Syphilitics who have been under the influence of mercury for a long time have a reduction in the amount of secretion of the thyroid substance, hence thyroid substance should be administered, and hence the frequency of connective tissue sclerosis and early arteriosclerosis observed in these individuals.

It has been observed that the thyroid influences calcium metabolism, and its use has been of value when there is slow deposit of callus about a fracture. This action of thyroid is also observed in cretins, as the bones begin to grow as soon as the thyroid is given.

Clinically it is found that iodine, even in small doses, administered as an iodide, where there is hyperactivity of the thyroid gland, has the same effect as the administration of the desiccated thy-

roid, when given under the same conditions. This is not true in normal patients.

Thyroid has no action locally, but acts only after absorption. The physiological action is observed only when small doses are continued for some time, and when the symptoms of intoxication come on, such as nervousness, sleeplessness, loss of weight, etc., the remedy should be given in smaller doses or perhaps discontinued.

Thyroid secretion is stimulated by nervous tension, great joy, great sorrow, sexual excitement, genital disturbances (especially uterine), pregnancy, meat, tea, coffee, alcohol, arsenic, iodids, phosphorus, salicylic acid, pilocarpin, but most of all by thyroid extract.

Some of the depressants to hypersecretion are quiet, seclusion, rest, absence of all sexual excitation and all genital irritation, milk and cereal diet, glycerophosphates of lime and soda and perhaps all forms of opium, calcium, ergot, bromids, chloral, and perhaps most hypnotics

The conditions caused by a diminished secretion of the thyroid gland are: chlorosis, amenorrhea, obesity, goiter, eczema, hysteria (depressant form), vomiting of pregnancy, eclampsia, epilepsy, melancholia, slow growth in children, cretinism, adiposis dolorosa, lipomatosis, myxedema, senility, and consequently the thyroid substance should be administered when these conditions are present.

Thyroid has been used successfully in some cases of hemophilia and purpura hemorrhagica as well as in the irregular hemorrhages of the menopause.

Some observers speak highly of its effect in chronic rheumatism, arthritis deformans, and rheumatisms of a gouty origin, especially where these attacks show a disturbance in metabolism, as manifested by asthmatic attacks at one time, indigestion at another, and gouty attacks at still other times.

Sometimes thyroid acts as a diuretic and it is certainly antidotal to nitrogenous poisoning in insufficient kidney action. Even uremic convulsions are benefited by thyroid, and during the attack the dose should be large—10 grains three times daily.

Thyroid has been found valuable in some of the skin diseases such as dry eczema, psoriasis, ichthyosis, and in some instances of scleroderma.

If not otherwise contraindicated, whenever there is an excessive amount of connective tissue development in any organ, in other words a sclerosis or

a cirrhosis, a small dose of thyroid daily is beneficial.

SALVARSAN.

Salvarsan is at present, usually injected into a vein in an alkaline medium, and should be freshly prepared. The salt solution (0.9%) should be freshly distilled water and chemically pure sodium chloride. 30 to 40 c.c. of this is placed in a bottle and the dose of salvarsan is added which then dissolves by vigorous shaking.

To obtain the alkalinity 0.19 c.c. of a 15% solution of sodium hydroxide are now added for every 0.1 gram of the remedy; the immediate effect is the formation of a precipitate which dissolves on shaking and then gives rise to a clear golden yellow solution. This is finally diluted with sterile saline warmed to body temperature, so that every c.c. shall correspond to 0.1 gram salvarsan.

The injection is made into the large veins of the arm, carefully following aseptic principles. Make the injection slowly, allowing at least 15 to 20 minutes; want of attention to this may result in serious symptoms. It is quite usual that the patient's face becomes flushed during the injection, but if sudden pallor comes on or pulse gets weak, the infusion should be stopped at once.

Following the injection the patient should be quiet for 2-4 hours, preferably in bed, and in a hospital or in charge of a trained nurse. Extremely small doses may be given in the physician's office.

The reaction following the infusion is practically the same as would follow the injection of a like amount of salines. In many cases the patient is merely aware of slight chills which come on in an hour or two, while in others the chill is more severe. A feeling of congestion about the head is common, as is also profuse perspiration. Other common symptoms which may develop are moderate elevation of temperature (100-102° F.), while in some patients vomiting may occur and at times diarrhea. Other symptoms are rare if a careful technique is followed.

The imperfection in salvarsan has been realized by Ehrlich himself, which is proven by his attempt to introduce another product—neosalvarsan, which may be given in larger doses, 0.6 to 1.5 grams in 200 to 250 c.c. of saline. Later reports seem to favor the use of salvarsan.

0.5 gram of salvarsan is considered a safe initial dose, while some observers have used doses

much larger. The dose should be regulated very much by the general condition of the patient. Small doses should be used on patients where one is in doubt whether the remedy should be used or not, and then the injection repeated in a few days.

Its use is contraindicated in cases with advanced heart disease or diseases of the nervous system, especially in cases of angina pectoris, aneurysm, advanced paresis, or atrophy of the optic nerve, while in other syphilitic diseases of the eye, as well as in advanced syphilis of the abdominal organs, salvarsan is a valuable remedy. If the remedy seems strongly indicated in cases where doubt exists as to its tolerance, begin with very small doses, and increase the dose carefully, if tolerated.

A single injection is usually not sufficient to kill all the spirillae of syphilis as was at first thought, but that this can be done in a comparatively short time has been established beyond any doubt. The remarkable efficiency of the remedy is proven by the fact that the spirochetes disappear rapidly both from the primary sore and from the secondary ulceration. This takes place usually within twenty-four hours and even in less time.

The best results may be expected in the primary stage of the disease, especially if several doses are given and this followed by mercury. No effect is to be expected from the use of the remedy upon those who are no longer suffering from syphilis, but from the consequent lesions. Symptomatic improvement may take place, but we should expect no benefit in such afflictions as blindness and cases where actual destruction of cells has taken place; however, some improvement does take place in the early stages of these conditions, and for this reason the remedy should be given a trial. In advanced paresis the remedy should not be used at all.

Salvarsan has been found to be useful in other affections due to protozoan parasites. It has been found valuable in the treatment of tertian malaria and notably in those cases which do not yield to quinine. It has also been observed that the refractory behavior of quinine may be made to disappear by the administration of salvarsan.

Brilliant results are reported in its use against relapsing fever, where a single injection causes a permanent cure. Equally good results are obtained by its use in frambesia or yaws, which plays an important role among the plantation workers of Surinam, even more important than syphilis.

Joannides has observed that bilharziosis can be cured with a single injection. The same has been reported in the treatment of Aleppo boil. It is of no avail in kala-azar. Both favorable and unfavorable reports have come from its use in typhus fever. In both amebiosis and Vincent's angina the reports are favorable. Its effects in the treatment of sleeping sickness have been inconstant.

In olden days the only diseases in which a specific cure was effected were the diseases of protozoan origin, i.e. malaria and syphilis, and it seems that the problem is more complicated when it comes to those of bacterial origin. However, we have seen what the genius of a man like Ehrlich has accomplished. May we not hope that he will open the way in the direction of these bacterial infections?

PITUITARY EXTRACT AND ERGOT IN OBSTETRICS.

BY C. H. DAVIS, M. D.,

CHICAGO, ILL.

Medical publications of the early nineteenth century contain many glowing accounts of ergot as an aid to the busy physician in his obstetrical practice. After many years of indiscriminate use and many disasters its use has been limited. Authorities agree that in normal labor ergot should not be administered until the placenta is delivered. Those who have seen no untoward effects from its use during the first or second stage have either used an inactive preparation or have given it in doses which failed to produce the physiological effect. Dr. Webster and many others give a deep hypodermic of an aseptic preparation preliminary to cesarean section. We believe that it is good practice to administer ergot after delivery in all cases except those in which there has been a dangerous hemorrhage.

The use of ergot is much hampered owing to the wide variation in activity of the various preparations. Until pharmacologists are agreed on the active principle or principles and a reliable method of standardizing the drug, we cannot depend on its action. We must also know when a given preparation was made, since Wood has shown that it loses strength under the most favorable circumstances at the rate of approximately 10 per cent. per month.

Pituitary extract has of late been much lauded, and its use is far too general. One can scarcely

help becoming enthusiastic over a drug when so many report the termination of delayed labors in from five to fifteen minutes after it is given intramuscularly. But unfortunately the results are not uniformly good. Edgar has recently called attention to the danger of fetal compression in cases where there is much resistance to overcome. The resistance may have its origin in the cervix, vagina, vaginal outlet, or from a malposition.

We have used pituitary extract in four cases of labor with the head on the perineum in which there was a drop of from thirty to forty beats in the fetal heart. Two of these were delivered spontaneously after a second ampule was given; the other two were delivered by low forceps. All of the children were resuscitated with difficulty and three died within the first five days with evidence of intra-cranial pressure. The fourth child was delivered with forceps immediately after the drop in its heart rate and it was discharged in good condition.

Dr. Heaney has shown that pituitary extract may cause a rise in blood pressure varying from 15 to 58m.m. Hg., with a corresponding slowing of the pulse. It acts on all the unstriped muscle in the body. It is probable that some of the drug is absorbed by the fetal circulation and that this may account for some of the drop in the fetal heart rate. We noted a drop in fetal heart rate in a case of inertia in which the drug had little effect on the uterus.

We believe with Edgar that pituitary extract has no place in normal labor. It is contraindicated in patients with high blood pressure, arteriosclerosis, valvular lesions of the heart, myocarditis, nephritis, and in cases of excessive hemorrhage. It may be used with varying degrees of success in primary and secondary inertia, postpartum hemorrhage due to inertia, and as a possible substitute for ergot in cesarean section. Dr. Webster has found it less efficient than ergot in the two cases in which he gave it as a preliminary to cesarean section.

If for any reason pituitary extract is used in the course of labor an assistant should watch the fetal heart rate and whenever excessive compression is suspected the labor should be immediately terminated with instruments. We believe that careful records will show that in most cases where an active preparation is used there is some slowing of the fetal heart.

TUBERCULOSIS COLUMN

Under the auspices of the Committee on Prevention of Tuberculosis of the State Medical Society of Wisconsin; M. P. Ravenel, Madison; G. E. Seaman, Milwaukee; C. A. Harper, Madison; J. M. Bffel, Milwaukee; T. H. Hay, Stevens Point.

At the Minneapolis meeting of the American Medical Association a very interesting, scientific, and practical paper on "Rest in the Treatment of Tuberculosis," was read by Dr. Flinn, of Prescott, Arizona. As stated in the paper, there is great need for calling attention to this much neglected agent in the successful treatment of tuberculosis. Dr. Flinn took the stand that too little had been said in the past on the subject, and too little application of this principle had been made. My own observation is that failure to appreciate the great value of rest at the right time is especially true of the general practitioner. Since the family physician must treat the great majority of tuberculous cases, it is his duty to learn the all-importance of rest in their treatment,—rest at the *right time*, in the *right place*,—and its proper employment. Rest should be in bed, and should be given to every patient for varying lengths of time, according to the conditions in the individual case. The very incipient cases should be put to bed for a period sufficiently long to make a careful study of temperature and general symptoms, to bring the patient under control, and impress him with the seriousness of the disease. Every fatal case of tuberculosis had an incipient stage and I do not hesitate to say that had a proper application of rest been made, by far the greater number of those would have been arrested. I base this belief upon the results in successfully treated cases, and the unvarying observation that every advanced case I have seen gives a history of no rest, rest insufficient in quantity, or of actual instruction by the physician to exercise, in several cases specifically to the point of "tire."

The time to exercise a tuberculous patient is not during the acute, active stage of the disease any more than in any other disease. Were physicians to order even suspected typhoid cases to exercise, they would be held responsible for the results; why the tuberculous patient should be an exception is beyond comprehension and the resulting high death-rate for generations past is not to be wondered at.

Patients in reporting and commenting upon their early home treatment often say that the doc-

tor simply told them "not to exercise too much", and the only criticism they would make of their physicians would be that they were not specifically instructed how to cut down their exercise. The good results of any treatment are in direct proportion to the precision and thoroughness of its application. In the acute stage of tuberculosis rest should be *absolute*. By absolute rest is meant, strictly interpreted, rest in bed without undue, unnecessary disturbance by nurse, family, or friends, without reading, writing, visitors,—without thought, if possible. The patient should do nothing and have nothing done which is not essential to his comfort and welfare. If the case is afebrile this may be modified after the first hour of absolute rest morning and afternoon; in temperature cases it should be persisted in until the normal is maintained throughout the day for not less than ten days, and not until then should there be any relaxation. Convalescent cases should keep up after-breakfast and after-dinner rest of one to one and a half hours during the whole period of convalescence or until resistance has been re-established. This resistance, or failure to feel fatigued on ordinary, supervised exercise, is the best guide in the majority of cases. Systematic, prolonged, intelligently directed application of the principle of rest in tuberculosis is the most potent and most important therapeutic remedy we possess. To quote the closing paragraph of Dr. Flinn's paper,—
"And now abideth fresh air, good food, rest,—these three, but the *greatest of these is rest.*"

T. H. HAY.

BOOK REVIEWS

HISTORY OF OPHTHALMOLOGY. Hirschberg, J., Berlin. Graefe-Saemisch, Handbuch der gesamten Augenheilkunde, 2nd, entirely new, edition, continued by C. von Hess, München. Nos. 221 to 224. 310 pp. with 13 figures in the text and 9 plates. Leipzig. Wilhelm Engelmann. 1912. Subscription \$2.00. Single price \$3.00. This volume contains the history of the oculists of France from 1800 to 1850. The French revolution of 1792 by the law of August 18, 1792, had suspended all universities, faculties, medical schools and surgical colleges and created a complete anarchy, without at first providing for any substitutes. On account of the long controversies between medical faculties and surgical colleges and the bad reputation of the hospitals, this radical measure was considered as a wholesome act as it necessitated reformations, which resulted in the unification of these corporations. Napoleon the first founded the university of France and from that time the medi-

cal schools reassumed the name of faculties. Professors of ophthalmology were not appointed, and ophthalmology did not appear in the program of lectures. It was left to the professors of surgery. While surgery and internal medicine in the first 3d of the 19th century admirably developed and flourished under Boyer, Dupuytren, Roux, Gensoul, Delpech, Bichat, Andral, Lae- nec, ophthalmology was not cultivated or advanced. This was the more remarkable, as France had in the 18th century contributed the most to the renaissance of ophthalmology. H. distinguished 3 periods in the first half of the 19th century: 1. The national surgical up to the 3d decade under the great surgeons Boyer, Dupuytren, Roux, etc. 2. The specialistic surgical period, characterizing by the first invasion of foreign oculists into Paris, the German Sichel, and the Italians Carron du Villards, Rognetta and Furnari and the reaction by the French surgeons Sanson, Velpeau, Malgaigne and others, up to the 4th decade. Boyer of Dresden, who resided in Paris in 1835, called this the renaissance of ophthalmology in France. 3. From this developed the 3d period, the national specialistic, under the banner of Desmarres, the pupil of Julius Sichel, and extends until his retirement in 1862. At this period, 1853, the national French Archives d'ophthalmologie were founded by M. A. Jamain at Paris but lasted only for 3 years on account of insufficient national support. After illustrating the ophthalmological activity of the great surgeons and the oculist Sebastien Guille who published his experiments on the contagion of ocular blennorrhoea in the bibliotheque ophthalmologique which he founded in 1820, H. quotes from it the celebrated history of an epidemic of blepharoblennorrhoea on the French ship le Rodeur with 150 slaves on board. He then gives a detailed history of Julius Sichel, the resurrector of French ophthalmology, showing, in successively going over the single chapters, that Sichel found, published and divulged new thoughts, new observations, new methods in the most different fields of ophthalmology. Sichel may be considered as the grandfather and his pupil Desmarres as the father of the modern French school of ophthalmology. In his general principles Sichel unconditionally confesses himself to the natural historic doctrine of Schoenlein. Of his works his monograph on glaucoma is the first in the literature of the world. His operation of Kerato-conus was original. Here Hirschberg inserts chapters on the history of cortical cataract, ocular dressings, open wound treatment, ending with Sichel's life work proper: iconographic ophthalmologique. From the now following history of the Italian oculists who emigrated to Paris, and French surgeons, we mention only Carron du Villards, who wrote the first excellent essay on ocular affections in leprosy, Sanson who, without knowledge of the discovery of Purkinje in 1823, rediscovered in 1837 the Purkinje-Sanson's images, and Cloquet, the discoverer of the canal called after him. Here a chapter on the Purkinje-Sanson's images with the original Latin text of Purkinje and the French description by Sanson is inserted. Then follow quotations from the ophthalmological chapters

of the book of the great surgeon Velpeau who violently opposed the justification of specialties, particularly ophthalmology and J. Sichel. To his chapter on the creation of ptyalism in the treatment of severe ophthalmia, H. adds a paragraph on acute mercurialization, followed by a chapter on specialism and medicine. Laugier, who devised the removal of cataract by suction, and Ricord, the founder of modern syphilology, are dealt with on the following pages with an enumeration of the monographs on venereal diseases of the visual organ up to date. Of the numerous pupils of Sichel Desmarres was the most eminent. He was the reformer of ophthalmology in France. His life and activity are portrayed in detail and a special chapter is devoted to the analysis of his book, a master work, by which he gained his world wide fame. Then Nelaton's renowned work on cataract operation is reviewed, followed by chapters on the history of keratitis, scleritis, setaceum, mercurials, statistics on the results of cataract operations. In the history of ophthalmology at the other universities of France, especially Lyon and Montpellier, Victor Stoeber of Strassburg and his works receive a detailed discourse. He was the first in France who as professor began the systematic teaching in ophthalmology in 1830. His text book on ophthalmology was also highly valued in Belgium and Germany. In a retrospect H. says: "If the progress in the first half of the 19th century was not as rapid and extensive as corresponds to the gift of the French for arts and sciences, the resistance was due more to the faculties than the government. Like its predecessors also this volume gives a splendid display of Hirschberg's admirable familiarity with the subject, gained by the careful study of the original works of the men whose life and achievements are here delineated, and the reports of contemporaries who visited their clinics. The work is embellished by a large number of portraits. C. ZIMMERMANN.

THE FUNGI. Eichinger, Alfons. Assistant at the Imperial Biological and Agricultural Institute Amani, German East Africa. 124 pp. with 54 illustrations in the text. (Aus Natur und Geisteswelt, Sammlung wissenschaftlich-gemeinverständlicher Darstellungen). B. G. Teubner, Leipzig. 1911. Cloth, \$1.25 M., \$0.37. The author intended to give in this little volume a general exposition of the morphological and biological conditions of the fungi with due consideration of their distribution and importance in the household of nature and man. In this he admirably succeeded. After describing in a very pleasant easy style the vegetative system of the fungi and their organs of propagation, he gives a very good representation of saprophytism and parasitism, with directions of obtaining clear cultures of fungi, their metabolism, physiology and symbiosis. A very instructive chapter is devoted to the enzymes, proteolysis and fermentation, the importance of the fungi in the human household, their poisonous actions and to diseases, caused by them, e. g. ergotism, actinomycesis. The subject here treated is of great interest to the physician, and he will be delighted to have it presented in such a concise and interesting form.

C. ZIMMERMANN.

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EDITORIALS

THE ANNUAL MEETING.

Everything is ready for the Sixty-seventh Annual Meeting of the State Medical Society and there is surely every reason to believe that it will be a huge success.

As will be seen by the announcements on other pages of this number of the Journal the meeting of the State Medical Society will be preceded by a meeting of the Association of County Secretaries and State officers and by the Annual Meeting of the Society of Wisconsin Medical Women, and will be immediately followed by the Annual Meeting of the Wisconsin Anti-Tuberculosis Association.

In addition to these meetings there will be a series of clinics at various hospitals in Milwaukee both before and after the sessions of the State Medical Society, particulars of which are given on page 124. This is a new feature and promises well.

The work of the Arrangement Committee has been well done and we are sure of a comfortable meeting place, abundant entertainment, and an interesting commercial exhibit.

Come early and stay until the end so as not to miss anything!

ANNUAL MEETING OF THE WISCONSIN ANTI-TUBERCULOSIS ASSOCIATION.

It is expected that many of the physicians will stay over for the Fifth Annual Meeting of the Wisconsin Anti-Tuberculosis Association which

will be held in Milwaukee October 3-4. The programme has been arranged so as to give them an opportunity to hear the tuberculosis programme which has been especially prepared to interest doctors. A special invitation is extended by the Wisconsin Anti-Tuberculosis Association to all of the physicians of Wisconsin to attend its meeting.

The principal speakers will be Dr William Charles White of Pittsburg, and Dr. J. H. Lowman of Cleveland. Dr. White has probably done more than anyone else in this country with tuberculosis in children and is recognized as a national authority on this phase of the subject. Dr. Lowman of Cleveland, is president of the National Association for the Study and Prevention of Tuberculosis, and is also a man of nation-wide reputation.

There will be other local speakers, but the programme will be planned so as to place the main speakers immediately following the meeting of the State Medical Society in order to give its members an opportunity to hear these men. As is indicated by the name of Dr. White on the programme, a great deal of attention will be paid to the subject of tuberculosis in children. Both physicians and sociologists who are devoting their time especially to the campaign against the white plague, are placing more and more importance upon the care of the child as a principal factor in the eventual eradication of the disease.

It is expected that the addresses by Dr. White and Dr. Lowman will be so popular that it will not be possible to throw them open to the public, but

all of the physicians are cordially invited to attend and complimentary admission tickets can be had upon application to the Wisconsin Anti-Tuberculosis Association, 314 Goldsmith Building, Milwaukee.

SOME ASPECTS OF INTERNAL SECRETION IN DISEASE.

The Address in Medicine delivered at the recent meeting of the British Medical Association by Dr. G. B. Murray of Manchester, (*British Medical Journal*, July 26, 1913), was devoted to a consideration of this interesting but difficult subject. Internal secretions were defined as being the useful products of the activity of certain glandular cells which pass into the blood stream in order to play some definite part in metabolism. Ductless glands act on other tissues at a distance by means of substances, for which Starling has suggested the name hormones, which are conveyed by the blood stream to the cells for which they are destined, but Murray points out that these hormones may either activate or inhibit chemical action.

The thyroid, parathyroid, pituitary, and suprarenal glands have only an internal secretion, while the pancreas, the generative glands, and possibly others have both an internal and an external secretion, the two forms of secretion being supplied by different sets of cells so that one may fail while the other continues active. Thus in the generative glands spermatogenesis may cease while internal secretion persists.

In discussing atrophic changes in the thyroid Murray says that while the typical symptoms of myxedema are well-known many cases appear to be unrecognized and untreated, perhaps because of the gradual and obscure onset of the symptoms. He continues by observing that "the slight and early forms of the malady may easily be overlooked. * * * In middle-aged women who complain of lassitude, chilliness, and other subjective sensations associated with slight dryness of the skin, some loss of hair, and a little thickening of the subcutaneous tissues—to mention but a few of the signs of slight thyroidal insufficiency—it is well to remember that a partial atrophy of this gland may be the cause of the symptoms. A course of treatment by thyroid extract will soon be followed by improvement if the diagnosis is correct. In some cases the atrophy appears to become arrested at an

early stage and to progress no further for a long period."

In the course of a brief historical review of the steps by which our present knowledge of the function of the thyroid gland has been obtained Murray narrates the clinical and experimental evidence which led him to prepare the first thyroid extract and to use it in the treatment of myxedema. The results of treatment in this first case were published twenty-two years ago and it is interesting to learn that the patient is still alive and well, a condition of health being maintained by a dose of 10 minims of liquid thyroid extract every week day. No variation of the dose has been found necessary.

In cretinism, on the other hand, the dosage requires a nice adjustment to the varying physiological requirements of childhood in order to secure the best results.

Murray points out that the secretory activity does not depend on the size of the gland. Very great enlargement of the thyroid may take place in some forms of goitre without any excess of secretion passing into the blood, whereas in Graves's disease a slight increase in size may be accompanied by symptoms of active hypersecretion. Slight enlargement may take place in response to special physiological requirements; thus the pituitary gland enlarges during pregnancy, and the thyroid at puberty and during menstruation. While the physiological enlargement of the thyroid during adolescence may become pathological in the form of a simple parenchymatous goitre, it will usually subside when the demand for more than the usual supply of hormones is made good in the form of suitable doses of thyroid extract by the mouth. Murray warns, however, that before undertaking this treatment in these cases it is of great importance to make sure that no symptoms of hyperthyroidism are present, or a mild incipient case of Graves's disease may unwittingly be aggravated.

In speaking of the clinical course of Graves's disease Murray refers to the remarkable variability of the symptoms, particularly as shown in the general crises which are probably due to a sudden increase in the activity of the thyroid, resulting in the discharge of a large amount of secretion into the blood stream. In these crises the pulse is greatly increased in frequency, up to 200 or more per minute; there is great nervous agitation and

restlessness, increased tremor, sweating, vomiting, and diarrhea. These attacks are alarming and dangerous, and in some cases prove fatal within a few days. The rapid pulse may last for some hours, or may subside more rapidly after the application of an ice-bag to the precordium. The cutaneous and bronchial crises are generally controlled by belladonna in full doses and the gastric and intestinal crises by opium. In one case in which the vomiting continued in spite of all treatment injections of pituitary gland extract were tried and after several injections the vomiting ceased altogether.

Of the results of disease of the parathyroid glands very little is known, although their importance as separate organs with a special relationship to the nervous system is shown by the development of tetany when they are removed.

"The pituitary, like the thyroid gland, has a remarkable influence upon metabolism, and the rapid growth and development which normally takes place at adolescence is largely due to its activity. Cushing's experiments show that after removal of the hypophysis in adult dogs there is deposition of fat, increased sugar tolerance, lowering of temperature, and abeyance of sexual functions. In puppies there is, in addition, arrest of sexual development and of skeletal growth. In man the effects of pituitary insufficiency are shown in the condition described by Fröhlich and named by Bartels *dystrophia adiposogenitalis*. This condition may develop either as the result of destructive disease of the hypophysis or in consequence of injury, as in Madelung's case of bullet wound of the pituitary gland. There is a remarkable increase in the amount of fat associated with high carbohydrate tolerance, dryness of the skin, impaired nutrition of the hair and nails, and arrested development of the genital organs. It appears, therefore, that hormones supplied by the anterior lobe of the hypophysis activate skeletal growth and sexual development at puberty, control the accumulation of fat and the nutrition of the skin and its appendages.

"Sir E. A. Schäfer has shown that the posterior lobe including the pars intermedia supplies hormones which regulate the tone and contractility of plain muscular tissue generally and of the heart, and stimulate the activity of the mammary gland and of the kidney. It seems possible that the secretion is polyvalent, and that these various effects

are produced by the action of different hormones, as Herring obtained a pituitary hormone from the skate which stimulated the mammary gland without influencing either the circulatory system or the kidney. In addition to these important results, Sir E. A. Schäfer's experiments have placed pituitrin, a very powerful remedy, in our hands, by means of which we can stimulate plain muscular tissue to contract. It is not unreasonable to expect that it may be found possible to separate the hormones which stimulate glandular secretion from those which act upon the unstriped muscle and so further increase their range of usefulness in the treatment of disease.

"Not only may disease be due to lack of pituitary hormones, but a remarkable change in the body arises when the supply of these hormones is superabundant. When this occurs in the adult the hypersecretion leads to the characteristic changes of acromegaly. In young subjects the long bones are still able to increase in length, and so a condition of gigantism is the result, and lowered sugar tolerance with glycosuria in some cases."

The ductless glands have important relationships to each other but the exact nature of these relationships is far from clear. The existence of a relationship between the hypophysis and the sexual glands is shown by the enlargement of the former which takes place during pregnancy and after castration. It has been shown that the thyroid and pancreas tend to inhibit each other, so that increase of activity in one is accompanied by a diminution in the other. This influence is probably exerted by the thyroid secretion on the activity of the islands of Langerhans, so that in exophthalmic goitre sugar tolerance is lowered, while in myxedema it is raised.

Very little is known of the internal secretion of the pancreas although there is reason to believe that such a secretion exists.

While adrenalin, the active hormone of the medulla of the suprarenal glands, is well-known, something more than this is lacking in Addison's disease, as unfortunately neither adrenalin nor extracts of the whole suprarenal gland are able to replace the diseased gland in this malady. Either the disease is due to something more than the loss of an internal secretion or the secretion, in addition to adrenalin, contains other hormones which we are not yet able to obtain in an active condition. Excessive action of the suprarenal me-

dulla in early life appears to lead to premature sexual development.

The dual function of the generative glands has long been known and spermatogenesis and internal secretion, the two functions of the testicle, can be separated experimentally, as the internal secretion is in all probability furnished separately by the interstitial cells of Leydig. While ligature of the spermatic cord produces the same result as castration, ligature of the vasa deferentia entails sterility alone and does not prevent the full development of secondary male characteristics. Similar effects are produced by X-rays, which induce sterility without arresting internal secretion, as they spare the cells of Leydig.

As yet we are only able to recognize with certainty the maladies which are due to well marked changes in the structure and function of these organs but it is probable that some less definite forms of ill health may also be due to variations in the activity of one or more glands and Murry expresses the hope that further extensions of our knowledge in this direction may place within our reach new and efficient methods of treatment.

THE ECONOMIC VALUE OF A GOOD HEALTH DEPARTMENT.

Two years ago La Crosse took a great step forward by removing her Health Department from the field of municipal politics and placing in charge of it, as Commissioner of Health, a man who had made a special study of public health work and who has, since his appointment, been devoting his entire time to this work.

From the Second Annual Report of the Health Department of the City of La Crosse, covering the year 1912, we quote a few paragraphs to show how well it pays to handle health matters in a common-sense way.

"It is a matter of gratification to know that during the year 1912 there were one hundred and sixteen (116) fewer cases of contagious diseases than in the preceding year, and sixteen (16) fewer deaths from those diseases. This, too, in spite of the fact that three times during the year we were seriously threatened with epidemics.

"We desire to draw your particular attention to those three instances in which the city was threatened with serious outbreaks of contagious disease.

"The threatened scarlet fever epidemic illus-

trates how easy it is to handle what looks like a very serious difficulty when approached in a scientific manner. The sudden outbreak of so many cases of scarlet fever at so many different points in the city looked like a serious affair. So it was, until by mapping out a particular milk route, it was found that all the cases were on this route, and supplied by this particular dairy. The mere stopping of this milk supply for the incubation period of scarlet fever and quarantining effectively the infected homes, stamped it out at once. Science is always simple.

"The second threatened danger to which the health commissioner draws our attention is that at the Rubber Mills. Here, by thorough investigation, with the hearty co-operation of the management, all danger was quickly removed; a large economic loss probably saved the concern; much saving of time and danger accrued to the employees—and here again the city was probably saved from the danger of a very serious contagious disease spreading. Too much praise cannot be given the management of the Rubber Works for the splendid example set the employers of labor, by their hearty co-operation with the Board of Health.

"For many years we have known that because of the very large percentage of unvaccinated children in the city schools there must sooner or later occur a serious outbreak of smallpox in our midst. Just before the close of the schools for the Christmas holidays this threatened danger seemed to have arrived.

"Through the prompt enforcement of the State Law relating to vaccination, during the holidays, it was possible to allow all the schools to open on schedule time and since then it is interesting to note that not a case of smallpox has occurred amongst school children, though some eight cases occurred amongst adults since the order was enforced.

"More than three thousand school children were vaccinated. No comment is needed as to the efficiency of vaccination. We beg to direct your special attention to the work being done by the school nurse, Miss Pattee, under the direction of the Health Commissioner. The careful supervision of the health of school children and the exclusion of those having infectious diseases is one of the greatest economic value.

"One epidemic of smallpox a few years ago in

the State of Pennsylvania cost the State ten thousand school years loss of attendance. Estimating the average school life at ten years, this meant a thousand illiterates in the State of Pennsylvania for this one epidemic.

"In connection with the communicable diseases it is interesting to note that during the year there were 41 fewer houses quarantined than during the previous year. This means a direct economic gain aside from the danger and inconvenience avoided."

WHAT'S WHAT IN THERAPEUTICS.

There are two publications, of the American Medical Association which deserve to be better known to the general practitioner than they are at present. These are "New and Nonofficial Remedies" and the "Reports of the Chemical Laboratory of the American Medical Association". As the price of these volumes is only twenty-five cents each, (the first contains over three hundred pages and the second over a hundred and twenty), one can safely say that every physician can afford them, and in fact it would be nearer the truth to say that no physician can afford to be without them.

In the first named volume are found the official rules which guide the Council on Pharmacy and Chemistry, these rules having for their object the protection of the medical profession and the public against frauds, undesirable secrecy, and objectionable advertising in connection with proprietary medicinal articles; together with a list of the medicinal substances which have been examined by the Council on Pharmacy and Chemistry and which appear to comply with the rules of the Council. A brief description of each article is given followed by paragraphs on "Actions and Uses" and "Dosage". An enormous amount of useful information is thus supplied in compact form which is not accessible in the ordinary works on Therapeutics and Pharmacology.

The second volume mentioned contains Contributions from the Chemical Laboratory of the American Medical Association; Reports abstracted from the Journal A. M. A., embracing Chemical Data contributed to the Journal by the Laboratory; and Unpublished work of the Laboratory. There is much material contained in these pages which is of interest regarding medicinal preparations both good and bad. The composition of some new and dependable substances is described and

many humbug and fraudulent "cures" are exposed.

Altogether these two works are well deserving of a better acquaintance.

SCHOOL FOR HEALTH OFFICERS, CONDUCTED BY HARVARD UNIVERSITY AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

Beginning this fall Harvard University and the Massachusetts Institute of Technology are to maintain in co-operation a School for Public Health Officers. The facilities of both institutions are to be available to students in the School and the Certificate of Public Health (C. P. H.) is to be signed by both President Lowell and President MacLaurin.

The object of this School is to prepare young men for public health work, especially, to fit them to occupy administrative and executive positions such as health officers or members of boards of health, as well as secretaries, agents, and inspectors of health organizations.

It is recognized that the requirements for public health service are broad and complicated, and that the country needs leaders in every community, fitted to guide and instruct the people on all questions relating to the public health. To this end, the instruction of the new School will be on the broadest lines. It will be given by lectures, laboratory work, and other forms of instruction offered by both institutions, and also by special instructors from national, state, and local health agencies.

The requirements for admission are such that graduates of colleges, or technical and scientific schools, who have received adequate instruction in Physics, Chemistry, Biology, and French or German, may be admitted to the School. The medical degree is not in any way a pre-requisite for admission, although the Administrative Board strongly urges men who intend to specialize in public health work to take the degree of M. D. before they become members of the School for Health Officers.

The Administrative Board which will conduct the new School is composed of Professor William T. Sedgwick, of the Massachusetts Institute of Technology; Professor Milton J. Rosenau, of Harvard; and Professor George C. Whipple, of Harvard. Professor Rosenau of Harvard has the title of Director, and the work of the School will be under his immediate supervision.

NEWS ITEMS AND PERSONALS

DR. BELLE PAINTER NAIR, Ft. Atkinson, has been appointed a resident physician at the Northern Hospital for the Insane at Winaebago.

DR. ROBERT CURTIS BROWN has been elected chief of the staff of the Milwaukee Society for the Care of the Sick.

DR. HERMAN STOLTE, formerly professor at Marquette University has gone to Germany to remain permanently.

DR. SOLON MARKS, Milwaukee, veteran surgeon, celebrated the 86th anniversary of his birth on July 14th.

DR. CHARLES GORST, superintendent of the Mendota Hospital, who has been ill with uremia, is somewhat improved.

DR. K. W. SMITH, bacteriologist in the State Hygienic Laboratory has resigned. Dr. Smith resigns to engage in private practice in Madison.

DR. B. T. PHILLIPS of Menomonie, accidentally wounded his left hand on July 8, severing the little finger at the first joint, and cutting the third finger so badly that it may have to be amputated, while chopping brush with a hatchet.

DR. W. D. LITTLE of Maiden Rock, was seriously injured on July 22, when the tire of his automobile exploded, the machine turning turtle over an embankment.

DR. J. A. VAN DE ERVE of the Alabama School of Medicine, Mobile, has arrived in Milwaukee to assume his new duties as dean of the Marquette University College of Medicine.

DR. T. J. FLATLEY, Antigo, has returned from an extended western trip.

DR. OTHO FIEDLER, Sheboygan, has been appointed a member of the State Board of Health and Vital Statistics by Gov. McGovern. His term expires in February, 1920.

DR. A. T. SHEARER, Edgerton, is said to be ill with diphtheria.

DR. W. J. WEHLE, West Bend, was elected president of the Brainard Medical Society on July 16th.

DR. W. M. WOCHOS, Kewanee, is doing post-

graduate work in Vienna. He will return to Kewanee in November.

DR. G. T. MCDUGALL, Fond du Lac, is being treated at Trinity Hospital, Milwaukee, for a mastoid abscess.

DR. B. C. BRETT has resigned his position as surgeon of the Wisconsin Veterans' Home at Wau-paca.

DR. LYMAN STEFFEN has associated himself in the practice of medicine with his father, Dr. I. D. Steffen at Antigo.

Milwaukee Hospital, Milwaukee, celebrated the fiftieth anniversary of its founding on August 3 and 4.

The Tomah Hospital, for many years conducted by Dr. J. Simonson is now being managed by Drs. Simonson and Grove. Dr. Grove, the junior partner, was formerly connected with the Augustana Hospital at Chicago.

The Tuberculosis Division of the Milwaukee Health Department will ask the board of estimates for a \$5,000 appropriation in the 1914 budget to build a tuberculosis hospital for children. If allowed it will be patterned after the Blue Mound Sanatorium.

MARRIAGES

Dr. C. G. Goelzer, Plymouth, and Miss Meta Caroline Green, Green Bay, August 15.

Dr. Wm. L. Thompson, Milwaukee, and Miss Hazel L. Reeves, Fond du Lac, July 23rd.

REMOVALS

Dr. H. E. Erierson, Stanley to Eau Claire.

Dr. G. P. Frey, Spooner to Madison.

Dr. Albert A. Axley, Iron River to Butternut.

Dr. C. P. Horn, Luck to Viborg, South Dakota.

Dr. N. B. Wagener, Nekoosa to Port Edwards.

Dr. Fred W. Leeson, Sharon to Walworth.

Dr. Thos. F. Shinnick, Watertown to Beloit.

Dr. H. E. MacLaughlin, Colby to Grand Rapids.

Dr. W. H. Oatway, Lake Mills to Waukesha.

Dr. E. C. Howell of Fennimore has located at Walworth, where he succeeds the late Dr. F. J. Nicholson.

Dr. T. F. Manning has disposed of his practice at Lomira to Dr. M. N. Pitz of Fond du Lac. Dr. Manning goes to Chicago, where he will take a postgraduate course in surgery.

DEATHS

Dr. George E. Swan of Beaver Dam, died on August 15, 1913, aged 75 years.

Dr. Benjamin M. Lee, Philadelphia, one of the best known public health physicians in the country, died recently at Point Pleasant, N. J., aged 80 years.

Dr. George D. Ladd, Milwaukee, died on August 15, 1913. He was stricken with paralysis in January, 1906, and had not practiced since that time. He had been seriously ill for the last two months.

Dr. Ladd was born at Woodstock, N. Y., October 7, 1850, and came to Milwaukee when 6 years of age. He received his early education in the Milwaukee public schools and Markham's Academy. He began the study of medicine in the office of Dr. Moses Bartlett and later went to Rush Medical College, where he graduated in 1875. Soon after leaving college he was taken into partnership with Dr. Solon Marks. He was a director of the Wisconsin Humane Society for many years, a member of the surgical staff of the Milwaukee Road, a member of the State Medical Society and its president in 1890.

Dr. Hugh Scott, aged 81 years, a retired physician of Fond du Lac, died on July 11, following a stroke of apoplexy. Dr. Scott was born in Scotland on Sept. 1, 1832, and was educated in the public schools of his native country. He was graduated from the Edinburgh University in 1859. He practiced his profession in Scotland until 1863 when he came to America, settling in Chicago and practiced there for 26 years. He was known as the father of training schools for nurses and had the distinction of opening, over forty years ago, the first institution of that kind in Chicago. In 1889 he moved to St. Louis, Mo., where he spent four years, coming to Fond du Lac in 1893.

Dr. George T. Kimball, one of the best known of the practicing physicians of Kenosha, died very

suddenly on a street car on July 10, the result of a stroke of paralysis.

The death of Dr. Kimball marks the passing of one who had been very active in the practice of his profession. He was born in Kenosha 57 years ago, and was a son of the late Julius H. Kimball, one of the wealthy pioneers of Kenosha. After graduation from the Kenosha schools, he entered the University of Pennsylvania, graduating from the medical department in 1879. Following his graduation he practiced for a number of years in Kenosha, after which he went west to engage in mining operations. Nearly twenty years ago he was stricken with paralysis and was brought back to Kenosha. Since that time he had been crippled as a result of the disease. After his return to Kenosha he again began the practice of medicine. He was a charter member of the Kenosha County Medical Society and had been active in the work of this organization and in the work of the State Medical Society.

Dr. E. W. Bartlett, a practicing physician of Milwaukee for the past forty-three years, died September 11, after a prolonged illness.

Edwin Wilcox Bartlett was born in Jericho, Vt., in 1839 and was educated in the public schools of that state. He took the medical course at the University of Vermont and a postgraduate course at the College of Physicians and Surgeons in New York. After graduation in 1866 he was assistant physician and surgeon in Kings County Hospital, Flatbush, N. Y., for eighteen months. He spent the next two years in study in the medical schools of Paris, Vienna and London. In 1870 he came to Milwaukee and had been practicing there since that time with the exception of one year which was spent in study in Europe. He was surgeon for the Chicago, Milwaukee and St. Paul Railroad for thirty-eight years, a member of the Milwaukee school board from 1886 to 1889, a member of the board of trustees for the Milwaukee Public Museum from 1894 to 1900, and was president of that body from 1896 to 1900. He was also a member of the Milwaukee University Club, the Old Settler's Club, National Historical Society, the Milwaukee County and State Medical Societies.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

Officers 1912-1913.

ARTHUR J. PATEK, Milwaukee
President

C. A. ARMSTRONG, Boscobel
1st Vice President

L. E. SPENCER, Wausau
2d Vice President

JOHN MATHIESON, Eau Claire. 3rd Vice President

CHAS. S. SHELDON, Madison Secretary.

S. S. HALL, Ripon, Treasurer.

ROCK SLEYSER, Waupun, Assistant Secretary.

Councillors.

TERM EXPIRES 1917
1st Dist., M. R. Wilkinson, - Oconomowoc
2nd Dist., G. Windesheim, - Kenosha

TERM EXPIRES 1913
5th Dist., J. V. Mears, - Fond du Lac
6th Dist., H. W. Abraham, - Appleton

TERM EXPIRES 1915
9th Dist., O. T. Hougen - Grand Rapids
10th Dist., R. U. Cairns, - River Falls

TERM EXPIRES 1918
3rd Dist., F. T. Nye, - Beloit
4th Dist., W. Cunningham, - Platteville

TERM EXPIRES 1914
7th Dist., Edward Evans, - La Crosse
8th Dist., T. J. Redelings, - Marinette

TERM EXPIRES 1916
11th Dist., J. M. Dodd, - Ashland
12th Dist., H. E. Dearholt, - Milwaukee

Delegates to American Medical Association.

L. ROCK SLEYSER, Waupun.

J. J. McGOVERN, Milwaukee.

J. F. PEMBER, Janesville

W. T. MURPHY, Waukesha

Alternates
F. T. NYE, Beloit.

T. J. REDELINGS, Marinette.

A. W. GRAY, Milwaukee, Chairman.

Committee on Public Policy and Legislation
J. P. McMAHON, Milwaukee.

F. F. BOWMAN, Madison.

G. E. SEAMAN, Milwaukee, Chairman.

Committee on Medical Defense.
S. S. HALL, Ripon.

A. J. PATEK, Milwaukee

M. P. RAVENEL, Madison.

Committee on Prevention of Tuberculosis.
G. E. SEAMAN, Milwaukee.

C. A. HARPER, Madison

J. M. BEFFEL, Milwaukee.

Program Committee.
T. H. HAY, Stevens Point

W. F. ZIERATH, Sheboygan.

L. M. WARFIELD, Milwaukee, Chairman.

C. S. SHELDON, Madison.

Committee on Arrangements.

C. A. EVANS, Milwaukee, Chairman.

NEXT ANNUAL SESSION, MILWAUKEE, OCTOBER 1-3, 1913.

The Wisconsin Medical Journal. Official Publication.

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	W. T. Rinehart, Ashland	C. J. Smiles, Ashland.
Barron-Polk-Washburn-Sawyer-Burnett	W. L. M. Knowles, Spooner	B. N. Webster, Rice Lake.
Brown-Kewaunee	Julius J. Bellin, Green Bay	I. E. Levitas, Green Bay.
Calumet	E. L. Bolton, Chilton	F. P. Knaut, Kiel.
Chippewa	C. A. Hayes, Chippewa Falls.	A. L. Beier, Chippewa Falls.
Clark	H. H. Christoffersen, Colby	E. L. Bradbury, Neillsville.
Columbia	B. F. Bellack, Columbus	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills	A. J. McDowell, Soldiers Grove.
Dane	C. A. Harper, Madison	F. S. Meade, Madison.
Dodge	H. B. Sears, Beaver Dam	E. S. Elliott, Fox Lake.
Door		N. Z. Wagener, Sturgeon Bay.
Douglas	T. J. O'Leary, Superior	W. E. Hatch, Superior.
Dunn-Pepin	E. H. Granis, Menomonie	L. A. Dahl, Menomonie.
Eau Claire	A. L. Payne, Eau Claire	E. E. Tupper, Eau Claire.
Fond du Lac	L. A. Bishop, Fond du Lac	F. A. Read, Fond du Lac.
Grant	J. C. Betz, Boscobel	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe	S. R. Moyer, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	J. F. Riordan, Berlin.
Iowa	J. P. Parmley, Mineral Point	H. D. Ludden, Mineral Point.
Jefferson	W. T. Clark, Ft. Atkinson	C. R. Feld, Watertown.
Juneau	T. S. Lawler, Lyndon Station	A. T. Gregory, Elroy.
Kenosha	William Pugh, Kenosha	C. H. Gephart, Kenosha.
La Crosse	Oscar Houck, La Crosse	G. W. Lueck, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	Susanne Orton, Darlington.
Langlade	G. W. Moore, Antigo	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill	Herbert Saylor, Merrill.
Manitowoc	Max Staehle, Manitowoc	A. J. Shimek, Manitowoc.
Marathon	F. C. Nichols, Wausau	J. R. Bryant, Wausau.
Marinette-Florence	H. F. Schroeder, Marinette	M. D. Bird, Marinette.
Milwaukee-Ozaukee	C. H. Lemon, Milwaukee	Daniel Hopkinson, Milwaukee.
Monroe	A. E. Winter, Tomah	A. R. Bell, Tomah.
Oconto	J. B. Atwood, Oconto	R. C. Faulds, Abrams.
Oneida-Forest-Vilas	J. T. Elliott, Rhineland	C. A. Richards, Rhineland.
Outagamie	C. G. Maes, Kimberly	F. P. Doherty, Appleton.
Pierce	A. E. Gendron, River Falls	S. F. Rudolf, Ellsworth.
Portage	A. E. MacMillan, Stevens Point	W. F. Cowan, Stevens Point.
Price-Taylor	C. E. Fenelon, Phillips	G. H. McClure, Westboro.
Racine	J. S. Keck, Racine	Susan Jones, Racine.
Richland	R. H. De Lap, Richland Center	G. R. Mitchell, Richland Center.
Rock	Frank W. Van Kirk, Janesville	F. E. Sutherland, Janesville.
Rusk	G. M. Carnahan, Bruce	W. F. O'Connor, Ladysmith.
Sauk	F. D. Hulbert, Reedsburg	Roger Cahoon, Barahoo.
Shawano	J. F. Ragan, Gresham	C. E. Stubenvoll, Shawano.
Sheboygan	J. R. Kingsley, Sheboygan	W. F. Zierath, Sheboygan.
St. Croix	L. A. Campbell, Clear Lake	W. H. Banks, Hudson.
Trempealeau-Jackson-Buffalo	B. P. Roscnberry, Arcadia	G. H. Lawrence, Galesville.
Vernon	John Schee, Westby	F. E. Morley, Viroqua.
Walworth	H. C. Miller, Whitewater	M. V. Dewire, Sharon.
Washington	W. J. Welle, West Bend	S. J. Driessel, Barton.
Waukesha	Margaret Caldwell, Waukesha	S. B. Ackley, Waukesha.
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London.
Winnebago	L. P. Allen, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	J. A. Jackson, Rudolph	J. B. Vedder, Marshfield.

SOCIETY PROCEEDINGS

SECRETARY'S NOTES.

Just a word and a final report before the Annual Meeting. During the month renewals have brought the 1913 membership up to 1,653, a loss of 34 as compared with the total 1912 membership. Fifty counties have reported, all but Door, which we hope to get soon.

Of the 52 counties reporting, 20 show a gain, 25 a loss, and 7 are the same as last year.

Those making the largest gains are Sheboygan 12, Barron 7, Green 6, Marinette 4. The losses are Calumet, Douglas, Fond du Lac, Richland each 6, Milwaukee, Pierce and Rock 5, and Juneau, La Fayette, Marathon, Racine, Sauk and Winnebago each 4, and Trempealeau 3. No other counties have lost more than 2.

There is still time to convert some of these losses into gains before we meet in Milwaukee, if proper efforts are forthcoming.

A list of the delinquents has been sent to the various councilors and their aid is invoked in bringing into the fold the lagging members of the flock.

THE ANNUAL MEETING

Still looks good. This year we are pretty sure to have pleasant, cool weather. There is not likely to be much sickness, and we can all come together for a rousing good time. We hope for a "full house" of Delegates on Tuesday evening, so please see that your delegate is chosen and at the Meeting.

Look over the programme and pick out the subject you wish to discuss. Then come to the meeting and take an active part in the discussions. In this way both you and the meeting itself will be mutually benefited.

"Nulla vestigia restrosun"! which means we must make each meeting just a little better than the ones before!
C. S. S.

THE SIXTY-SEVENTH ANNUAL MEETING

ANNOUNCEMENT OF ARRANGEMENT COMMITTEE.

The Committee on Arrangements for the Annual Meeting of the State Society which is to be held in Milwaukee, October 1, 2 and 3, wishes to announce that it will do everything possible to

make the meeting a most successful and enjoyable one. This committee consists of Drs. Franz Pfister, C. H. Lemon, President of Milwaukee County Society, Gilbert E. Seaman, President of Milwaukee Medical Society, J. W. Frew, and C. A. Evans (Chairman).

The entire Elks' Club, a large three story building, located on Jefferson St., one block north of Wisconsin St., has been rented for the three days. This building gives ample room for all purposes. The registration office, information bureau, and lounging rooms will be on the first floor, the main assembly room, committee rooms, and ladies' rest room will be on the second floor, and the third floor will be used for commercial exhibits. Practically all spaces for exhibits have been reserved and only reputable concerns will be represented. The only meetings to be held outside of the Elks' Club are those prior to Oct. 1, namely, meeting of the House of Delegates and that of the Association of County Secretaries and State Officers, both of which will be held in the Milwaukee Medical Society Rooms. The State and County Officers' meeting will be followed by a "Ginger Tea".

The committee has deemed it wise to omit the customary banquet and to arrange for one grand smoker to be held on Thursday evening. This will leave Wednesday evening open for alumni reunions, theater parties (all theaters being open in October), etc. The smoker will be held at the Elks' Club and will consist of a formal part made up of speeches and an informal part to consist of a good time with vaudeville stunts, songs, boxing match, etc. Everything will be free of charge to registered members and there ought to be enough for everybody.

There will be entertainment for the visiting ladies and a ladies' committee has been appointed to take charge.

PROGRAM OF THE SIXTY-SEVENTH ANNUAL MEETING OF THE STATE MEDICAL SOCIETY OF WISCONSIN, MILWAUKEE, OCTOBER, 1, 2 AND 3, 1913.

WEDNESDAY, OCTOBER 1. MORNING SESSION,
11:30 A. M.

Call to order by the President, A. J. Patek, Milwaukee.

Invocation, Rev. Paul B. Jenkins.

Address of Welcome, Hon. G. A. Bading, M. D., Mayor of Milwaukee.

Response by the Vice-President, C. A. Armstrong, Prairie du Chien.

Report of Committee of Arrangements, C. A. Evans, Milwaukee.

Report of Program Committee, L. M. Warfield, Milwaukee.

AFTERNOON SESSION, 2 P. M.

1. Annual Address of the President, A. J. Patek, Milwaukee.

2. Intraspinal Medication in Paresis and Tabes, W. P. Lorenz, Mendota.

Treating syphilis of the nervous system by direct medication into the spinal canal; a series of cases treated according to the method of Swift and Ellis, that is, injection into the spinal canal of blood serum taken from a patient who previously received an intravenous injection of neosalvarsan; the effect of such direct medication on the pleocytosis, the chemical reactions including Lange's colloidal gold test, and the Wassermann reaction of the spinal fluid.

Discussion opened by L. M. Warfield, Milwaukee; W. F. Becker, Milwaukee.

3. Anesthesia, W. E. Bannen, La Crosse.

Ether; gas, ether; novocaine, gas; morphine, novocaine, gas and oxygen; anoci-association; selection of cases and choice of anesthesia; ability by means of expert anesthetist and careful operating greatly to lessen the amount of anesthetic used. Observation on one year's work at St. Francis' Hospital.

Discussion opened by J. L. Yates, Milwaukee; A. S. Loevenhart, Madison.

4. The Local Reaction Following Intradermal Injections of Tuberculin as a Guide to Tuberculin Therapy, O. E. Lademan, Milwaukee.

The administration of tuberculin as outlined by the writer consists in the application of the intracutaneous test as defined by Mantoux as his guide to dosage. A local skin reaction consisting of redness and tenderness, measuring from 4 to 6 cm. appearing within 24, 48, or 72 hours at the site of the injection, is a dose which apparently gives a pronounced focal reaction in addition to stimulating the defensive powers and yet shows no evidence of a constitutional disturbance. The average initial dose found to produce this local cellular reaction among 80 patients was 0.0001 gm. of O. T. (.1 mg.), the smallest, 0.00064 gm. (1/64 mg.), and the largest 0.0016 gm. (1 6/10 mg.)—

Having once determined the dose of O. T. which will cause a local reaction of the above measurements subsequent injections are of the same dose and continue so until the dimensions of local reactions change, whence the dose is accordingly increased or decreased.

Injections were given weekly. The maximum injection given any one individual during the course of treatment with the local skin reaction constant was 0.005 gm. O. T. (5 mg.) No ill effects, as headache, malaise, etc., were noted at any time following injections. There was a slight rise in temperature from $\frac{1}{2}$ to 1° F. 13 times out of a total of 1,149 injections.

Discussion opened by G. R. Ernst, Milwaukee; T. Willett, West Allis.

5. Osteitis Fibrosa Cystica, J. F. Smith, Wausau.

Reports of a case of this disease of the lower jaw; difficulty of differentiation from sarcoma; value of the X-ray as a diagnostic agent; gross and microscopic appearance of tissue removed.

Discussion opened by C. H. Bunting, Madison.

6. The Present Indications for Vaccine Therapy, J. K. Chorlog, Madison.

Discussion opened by L. R. Head, Madison.

THURSDAY, OCT. 2, MORNING SESSION, 9 A. M.

7. Prostatectomy in the Aged, J. F. Pember, Janesville and T. W. Nuzum, Janesville.

A study of 28 cases of prostatectomy done by three different methods. Results of questionnaire from American Surgeons as to different methods of operating. Summary of seven cases done by the old Y method; fourteen cases done by the perineo-urethral method. Lantern slide demonstration.

Discussion opened by Edward Evans, La Crosse.

8. Radiologic Contributions to a Diagnosis of Obstruction in the Alimentary Tract, Paul Eisen, Milwaukee

The topography of the Gastro-intestinal tract, discussion of extent of obstruction, with mobility or immobility. Relation of pain, quantity of ingested matter, peristalsis, forward or retrograde in diagnosis. Discussion of operability and post-operative function. Value of X-ray as an aid in diagnosis.

Discussion opened by J. L. Yates, Milwaukee.

9. The Modern Treatment of Syphilis, O. H. Foerster and C. A. Baer, Milwaukee.

Introduction; history; mercury; potassium iodide; spirochaete pallidum; experimental inoculation of animals; Wassermann reaction; salvarsan; luetin; neo-salvarsan; treatment of chancre stage; secondary stage; late manifestations; cerebro-spinal syphilis.

Discussion opened by A. H. Purdy, Milwaukee; L. Schiller, Milwaukee.

10. Extra Sacular or Sliding Hernia, V. F. Marshall, Appleton.

Extra saecular or sliding hernia of the large intestine or bladder has a peritoneal covering which is but partial; the condition is more common than was at

first believed; it owes its development to an embryological origin; relapses are frequent and its cure may tax the ingenuity of the surgeon to his utmost; report of case.

Discussion opened by F. G. Connell, Oshkosh; Edward Quick, Green Bay.

11. The Serum Diagnosis of Pregnancy, C. M. Echols, Milwaukee.

Results of tests made according to Abderhalden's method by dialysing proteolytic products and testing the dialysate for those substances.

Discussion opened by L. M. Warfield, Milwaukee.

12. An Operation for Painful, Intractable Sacro-Iliac Strain, Edward Evans, La Crosse.

13. Annual Address in Medicine: The Clinical Study of Respiration, C. F. Hoover, Cleveland, Ohio.

AFTERNOON SESSION, 1:30 P. M.

14. Medicine and Sociology, C. R. Bardeen, Madison.

15. Medical Inspection of Schools, G. P. Barth, Milwaukee.

16. Certain Aspects of Cardio-Renal Disease, R. L. Schulz, Wauwatosa, L. M. Warfield, Milwaukee.

A brief review of the recent work on this group of cases with a discussion of several groups into which the cases fall and a discussion of the value of some functional tests especially sodium chloride, lactose, and phenolsulphonephthalein. Brief reports of several illustrative cases and a summary of attempts to control the function of the kidneys by means of various therapeutic measures.

Discussion opened by L. F. Jermain, Milwaukee.

17. The Practical Application of Some Experimental Work on the Pancreas, J. L. Yates, Milwaukee.

Discussion opened by H. A. Sifton, Milwaukee.

18. The Clinical Value of Stool Examinations, A. H. Sanford, Rochester, Minn.

Review of about 2,000 stool examinations made at the Mayo clinic. Brief consideration of technique. Importance of examinations for intestinal parasites in northern states and case reports. Plea for more attention to this branch of chemical laboratory work.

Discussion opened by D. Hopkinson, Milwaukee.

19. Anaphylaxis in Cancer, F. G. Connell, Oshkosh.

20. Annual Address in Surgery. Some Problems in Bone Surgery, J. M. Hitzrot, New York.

FRIDAY, OCT. 3, MORNING SESSION, 9 A. M.

21. Points of Contact in Orthopedic and General Practice, F. J. Gaenslen, Milwaukee.

"Sciatica" and "Weak and Painful Back". Great majority of these cases Sacroiliac strain. Allied conditions and differential diagnosis. Pott's disease in adults. Infectious arthritis of spine. Charcot joints, mechanical treatment. Flat foot, types and treatment.

Discussion opened by H. E. Dearholt, Milwaukee, Edward Evans, La Crosse.

22. Acute Ileus, Edward Quick, Green Bay.

Discussion opened by C. E. Echols, Milwaukee.

23. The Non-operative Treatment of Chronic Frontal Sinus Suppuration, W. E. Grove, Milwaukee.

A brief discussion of the anatomy of the sinus. Sketching of various methods of treating chronic frontal sinus suppuration including the radical operations of Riedel, Killian, etc. A description of the intra nasal operations practiced for the relief and cure of this condition including mainly those of Ingals, Goode and Halle. A more detailed description of my own method of operating. A resume of the results obtained in a number of cases.

Discussion opened by H. B. Hitz, Milwaukee, Wis., F. Pfister, Milwaukee, Wis.

24. Volkmann's Ischemic Paralysis, C. J. Habegger, Watertown.

A study of the reported cases with special reference to nerve involvement. Report of case, causes, experimental work, analysis of cases from the literature, results of present methods of treatment.

Discussion opened by C. A. Evans, Milwaukee, C. M. Echols, Milwaukee.

HOSPITAL CLINICS.

During the week of September 29th to October 4th there will be the following clinics held in Milwaukee to which the members of the Society are cordially invited. Clinics will be held on Monday, Tuesday and Saturday so as not to interfere with the regular program.

Monday, Sept. 29, 8 A. M. Surgical Clinic, St. Mary's Hospital—Dr. W. C. F. Witte.

Monday, Sept. 29, 9 A. M. Medical Ward Rounds, County Hospital—Dr. L. M. Warfield.

Tuesday, Sept. 30th, 8 A. M. Surgical Clinic, County Hospital—Dr. J. L. Yates.

Tuesday, Sept. 30th, 8 A. M. Surgical Clinic, St. Joseph's Hospital—Dr. A. H. Levings.

Tuesday, Sept. 30th, 2:30 P. M. Orthopedic

EVENING.

Banquet, Hotel Pfister, Helen A. Binnie, Poynette, Toast-Mistress.

Responses by Belle P. Nair, M. D., Physician to State Hospital, Oshkosh, "The Broader Way".

Mary L. Fitzpatrick, M. D., Milwaukee, "His, Pills and Bills".

Gertrude Wellington, M. D., Centuria, "The Medical Women of Wisconsin".

Minnie M. Hopkins, M. D., Oconto, "Ideas and Ideals".

Julia Riddle, M. D., Oshkosh, "The Three Best Doctors".

WEDNESDAY MORNING, OCT. 1.

Automobile Ride.

Concluding Business Meeting.

All women physicians cordially invited.

Meeting and Headquarters at Hotel Pfister.

GRANT COUNTY

The regular outing meeting of the Grant County Medical Society was held at Cassville, Tuesday, August 26th. Early in the day automobiles began to arrive and were directed to Riverside Park, where the meeting was to be held. The day was beautifully bright and cool as though Nature were endeavoring to aid in making our day one of pleasure and success. Dr. W. P. Hartford and Dr. J. J. DeMers, assisted by their wives, had made plans for our reception and entertainment. Long tables were spread in the shade of the lofty oak trees and were loaded with the offerings of an abundant season, turtle soup and fried cat-fish being, as usual at this meeting, the great attraction. After dinner it was announced that launches were in readiness to take all for a ride upon the Mississippi. Many availed themselves of the privilege, and an enjoyable hour was spent in this delightful manner.

Dr. Hartford, acting president, then called the meeting to order, and the program as announced was carried out. A paper on Obstetrics by Dr. J. M. Lewis. Discussion led by Dr. W. W. Pretts. How to Make Our Meetings More Successful, was told by Dr. J. H. Fowler. Dr. J. J. DeMers and Dr. M. B. Glasier and was freely discussed by all present. Interesting cases reported by Dr. J. H. Fowler, Dr. N. E. McBeath, Dr. J. H. McLaughlin, Dr. J. M. Lewis and Dr. E. D. Orr, completed an interesting program.

A committee consisting of Dr. E. D. Orr, Dr. J. Godfrey and Dr. M. B. Glasier, was appointed to draft resolutions on the death of Dr. R. H. Kinney.

Dr. C. A. Armstrong, transfer card from Salt Lake County Medical Society, Utah, was received. On motion of Dr. E. D. McDonald, a vote of thanks was extended Dr. W. P. Hartford, Dr. J. J. DeMers and their wives for the splendid entertainment of the day. Many of the physicians brought their wives and families with them, thus making a large gathering to enjoy the beau-

tiful place, the generous hospitality of the Cassville doctors and their estimable wives, the perfect day, and the delightful ride upon the Father of Waters; all voiced the sentiment of one member who said "we shall count the time until the next meeting of the Grant County Medical Society at Cassville.

M. B. GLASIER, M. D., *Secretary*.

JEFFERSON COUNTY

Jefferson County Medical Society held a largely attended meeting on July 11th, at St. Mary's Hospital, Watertown. Twenty-five members were present. The program included an address, "The Relationship Between Certain Chronic Kidney Lesions and Blood Pressure," delivered by Dr. L. M. Warfield of Milwaukee. A paper "Ethics in the Practice of Medicine," was read by Dr. H. P. Bowen of Johnson Creek. Case reports were made by Drs. L. J. Bennett and H. O. Caswell of Fort Atkinson. Dr. C. J. Habegger gave an interesting demonstration of the pulmotor and the new x-ray apparatus at the Hospital.

KENOSHA COUNTY

The annual outing of the Kenosha County Medical Society was held at Twin Lakes on July 2nd. There was no scientific program. The gathering took the place of the regular monthly meeting of the Society.

RACINE COUNTY

The regular meeting of the Racine County Medical Society was held at the Lakeside Hotel, Brown's Lake, Racine County, June 26th at 2 P. M. Dr. F. J. Gaenslen of Milwaukee read a very interesting and instructive paper on "Recent Advances Made in Orthopedic Diagnosis". Dr. J. P. McMahon, managing editor of the Wisconsin Medical Journal was present. A spirit of good cheer prevailed, and the excellency of the paper and the free discussion made this a most profitable meeting. There were twenty physicians present.

SUSAN JONES, M. D., *Secretary*.

WAUPACA COUNTY AND NINTH COUNCILOR DISTRICT

The July meeting of the Waupaca County Medical Society was held at the Hotel Grattan, Waupaca, July 24, in conjunction with the regular quarterly meeting of the Ninth Councilor District Medical Society, the latter being the guests of the Waupaca County Society. A fine banquet was served at 7 P. M. and a most enjoyable time experienced, after which the good program or most enjoyable part of the meeting was rendered.

We cannot speak too highly of these joint meetings. In them pure democracy prevails. Each man is in touch with and on social and professional grounds with every other member present. Each physician seems to realize that he is responsible for the professional success of these meetings. The eagerness with which each member on the program is discussed and

the manner in which the author is plied with questions are the best of evidences that he has no monopoly on thought pertaining to the various subjects. Dr. Warfield of Milwaukee added much to the interest at this meeting.

This being our annual meeting the following officers were elected for the ensuing year: president, P. J. Gustofferson, Waupaca; vice-president, O. N. Mortenson, Waupaca; secretary-treasurer, Geo. T. Dawley, New London; censor for three years, H. A. Jefferson, Clintonville.

The Society adjourned subject to the call of its officers.
GEO. T. DAWLEY, *Secretary*.

BOOK REVIEWS

DISEASES OF THE STOMACH, INCLUDING DIETETIC AND MEDICINAL TREATMENT. By George Roe Lockwood, M. D., Professor of Clinical Medicine in the Columbia University; Attending Physician to Bellevue Hospital, New York. In one octavo volume of 624 pages, with 126 engravings and 15 plates. Cloth, \$5.50, net. Lea & Febiger, Philadelphia and New York, 1913.

In this monograph the author has attempted to get out of the beaten track of compilation with a bit of personal experience sandwiched here and there. He has taken the viewpoint that the personal opinion based on a large series of cases carefully studied is of more value than a review of the opinions of others. He has thus produced a book which is bound to be helpful. Some of the views he expresses are at variance with certain accepted ideas but he has all the authority necessary in his wide experience.

The reviewer notes with pleasure a few exceptions which the author takes to some current ideas. For example, the author crosses swords with the Mayo Clinic statistics in regard to the frequency of carcinoma following ulcer. The author takes exception to the "appalling" frequency as given from the Mayo Clinic.

Then he sums up all of the serological tests and glycyl-typtophane tests as interesting but of little value. He places X-Ray diagnosis where it belongs, viz., as an aid to diagnosis but not as *the* method of diagnosis.

Altogether we are pleased with the book and recommend it cordially to the general practitioner and also to the specialist.

The illustrations are excellent. The majority are original and the few which have been borrowed have been carefully selected and are well reproduced.

The book is attractively made and a very complete index enables one to find at once the point for which he is seeking.

L. M. W.

MEDICAL MEN AND THE LAW. A Modern Treatise on the Legal Rights, Duties and Liabilities of Physicians and Surgeons. By Hugh Emmett Culbertson, Esq., member of the Ohio and New York Bars; Contributing Editor to many Legal Publications. Octavo, 325 pages.

Cloth, \$3.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

This very useful volume should be well known to the medical profession as an acquaintance with it may save many an anxious hour, as well as many dollars in the form of unpaid bills.

The scope of the work is indicated by the following extract from the introductory chapter:

"It has been our object in this work not merely to show that, in common with all mankind, medical practitioners should have some general knowledge of the law, without which they cannot in any scene of life discharge properly their duty either to the public or to themselves, but also to demonstrate, that there are many and intricate branches of the law, in which the physician or surgeon, by competent knowledge, may not only materially serve himself in reputation, and his patients by advice, but also render important benefit to the community."

After a chapter devoted to definitions and explanations the subject is considered under the following divisions:

Who May Practice Medicine and Surgery; Relation of Physician to Patient; Compensation; Malpractice or Negligence; Criminal Liability of Physicians and Surgeons; Exemptions of Physicians and Surgeons; Physicians and Surgeons as Witnesses; Right to Protect Professional Reputation; Validity of Contract Restricting Exercise of Profession; Wills.

It will be seen that this work touches the personal interests of every physician and surgeon, and also of every practitioner in any branch of the art of healing. It deals with the duties, rights and liabilities of the professional man toward the public as settled by law, and also the legal relations of the regular profession to practitioners of the many schools of healing now in vogue, as well as the status of such healers in the eye of the law. It behooves every medical man to know the multitude of points in which his relations to the public and his fellow-practitioners are subject to a well settled body of law, to the end that he may avoid unexpected trouble on the one hand, and know his rights and powers on the other. This new work is comprehensive and authoritative, and its possession and perusal will save many times its cost if only in the item of collecting bills, as well as many an anxious hour. The well-established physician who has bought this knowledge in the costly school of experience will appreciate the value of such a work and will give it a place in his library within easy reach for frequent consultation. The young physician will be wise to profit by the knowledge so conveniently placed at hand, and will be glad to avoid the trials and troubles of his elders. Conversely it affords the lawyer a knowledge of the relations of his profession to that of medicine. It is an unusually serviceable book.

THE NARCOTIC DRUG DISEASES AND ALLIED AILMENTS, by George Pettey, M. D., Memphis, Tenn. Illustrated, 504 pages, octavo, cloth, \$5.00, net. F. A. Davis Co., Publishers, Philadelphia, 1913.

The author presents a book of over 500 pages which can be read with great profit by both the layman and the professional man.

We are pleased to recommend this volume because it concurs with our ideas relative to the nature of addiction cases, viz.: that these individuals are sick people and more sinned against than sinning. Again we are pleased that one with such extensive experience pleads for the "gradual reduction" method instead of the abrupt one in drug addictions. Also the warning against the careless use of hyoseine is well taken.

The volume is quite exhaustive and we take pleasure in endorsing the need of institutional treatment in these cases and their care subsequent to the discontinuance of the drug or stimulant. In some respects the author may be too dogmatic regarding his own ideas and not sufficiently considerate of the experiences of others of extensive experience.

A. W. R.

PRACTICAL MEDICINE SERIES. Vol. I, series 1913, General Medicine, edited by Frank Billings, M. S., M. D., and J. H. Salisbury, A. M., M. D., Chicago, pp. 390. Price, \$1.50.

Vol. II, General Surgery, edited by John B. Murphy, A. M., M. D., L. L. D., Chicago, pp. 604. Price, \$2.00.

PRACTICAL MEDICINE SERIES. Vol. III, series 1913, the Eye, Ear, Nose and Throat, edited by Casey A. Wood, C. M., M. D., and Gustavus P. Head, M. D., pp. 356. Price, \$1.50.

Volume IV Gynecology, edited by Emilius C. Dudley, A. M., M. D., and Herbert M. Stowe, M. D., pp. 219. Price, \$1.35.

These volumes of a handy size and attractively arranged for the student and busy practitioner, are replete with suggestions of the best practice of the day. The material of the volumes consists almost entirely of abstracts of important recent articles, in each case giving the reference to the original article. The ground is covered with great thoroughness, so that these books present in condensed form what has been done during the year that is really good.

By means of this excellent series of books it is possible for the general practitioner to keep in touch with medical progress in all its directions, an undertaking which the growth of medical literature has rendered an impossibility without such an aid. The judicious editorship of the entire series and of the individual volumes eliminates most of the superficial and unsound in current medical literature and presents the articles of real value in a form full enough for satisfactory use.

For the busy general practitioner, who desires to keep moving with the current of progress this series will prove most helpful.

ABSTRACTS

NOSE AND BASEDOW EXOPHTHALMUS. Hoffmann, R., (From the laryngological polyclinic of Prof. H. Neumayer in the University of Munchen. Klin. Mon. für

Aug., 50, I, May, 1912, p. 557), studied in his investigations on inner secretion the question as to influences on the intraorbital muscles. His attempts to act upon the protrusion of the eyeball and the other Basedow symptoms by reflex from the nose were successful, as controlled by ophthalmologists. In certain cases the exophthalmus receded within 24 hours after galvanocauterization of the normal nasal mucous membrane on the same side. He also ascertained in a series of experiments on animals how easily the vasomotor center, respectively the cerebral vasomotion, can be influenced from the nose.
C. ZIMMERMANN.

SYMPATHETIC OPHTHALMIA AND TUBERCULOSIS. Stoewer, Dr., Witten, (Archiv. für Aug., 73, p. 155), reports 2 cases of apparent sympathetic ophthalmia. The first, a man, aged 21, came 10 weeks after a perforating injury of the right eye with bilateral plastic uveitis and total synechia of the pupillary margin and exudations on Descemet's membrane. As the regular treatment was not successful, and a diagnostic tuberculin elicited a marked general reaction, a tuberculin cure with bacillar emulsion was instituted and was followed by striking improvement.

In the 2nd case, a woman, aged 56, a cataract extraction, 2 years ago was complicated by iridocyclitis, which resisted all treatment. After a few weeks iridocyclitis on the 2nd (right) eye set in. When S. saw her, she had mature cataract on this eye with very opaque capsule. V in both = O. The extraction of the cataract was smooth, but was also followed by plastic iridocyclitis with numerous deposits on Descemet's membrane. This did not show any improvement until the patient was treated with tuberculin injections. S. considers both cases analogous to those described by Bernheimer and Zirm, and as an additional proof for the fact, that sympathetic and tuberculosis uveitis may very closely resemble, so that one must think of tuberculosis in inflammations of the uvea, even if the clinical picture has nothing typical of tuberculosis.

C. ZIMMERMANN.

CONTRIBUTIONS TO THE TREATMENT OF CHOKED DISC, ESPECIALLY IN TUMORS OF THE BRAIN, BY DECOMPRESSION, WITH TEMPORARY EXTRACRANIAL DRAINAGE OF A LATERAL VENTRICLE. Kaelin-Benziger, Zürich, (Zeitschrift für Augenheilkunde, 29, January, 1913, p. 12, Feb., 1913, p. 138), discusses this question very elaborately from his observations of 35 cases of choked disc, mostly bilateral, within 17 years, and reports in detail 5 cases, seen in the last 3 years, treated with trephining and temporary extracranial drainage of a lateral ventricle. The technic of the puncture of the corpus callosum (Balkenstich), devised by Anton and von Bramann, and the trephining for decompression are exhaustively described. K. reached the following conclusions: 1. The certain diagnosis of bilateral choked disc is an unconditional indication for decompression of the brain by operation even if the visual function of one or both eyes is still normal. Thus the dangers are less and the results best. 2. The farther the damage

to the optic nerve by pressure is advanced, the poorer are the operative prospects for preservation or improvement of function. There is no diagnostic criterion for a spontaneous cure of choked disc, therefore it must not be counted on. 3. Since in most cases of brain tumors the causes of choked disc cannot be removed and the augmentation of the physiological outlets of cerebrospinal liquor is impossible from the start, the only therapeutic measure to be considered is a new permanent outflow of liquor or a permanent enlargement of space for extension of the brain. 4. As experience shows that a solid tumor often is complicated by hydrops of a ventricle, the opening must be combined with temporary extracranial and permanent intracranial drainage. Therefore simple trephining can suffice only in very rare cases. 5. If localization is impossible, the parietal region is preferable. 6. K. has no experience as to lumbar puncture or that of the corpus callosum. 7. In K.'s cases the cerebral symptoms and the choked disc disappeared in from 24 hours to 2 weeks after the operation. None of the patients died in consequence of the operation. 8. In every case the therapeutic plan must be determined by the ophthalmoscopic state of the choked disc, whose subsidence must be obtained under all circumstances.

C. ZIMMERMANN.

THE SIGNIFICANCE OF CHOKED DISC. Schieck, F., (Director of the Eyeclinic in the University of Königsberg. *Deutsche Medizinische Wochenschrift*, Jan. 2, 1913, No. I, p. 10), defines choked disc as the ophthalmoscopically visible expression of an imbibition of the peripheral end of the optic nerve with cerebrospinal fluid, a process which leads to bulging, enlargement and edema of the disc with subsequent phenomena of intense stasis in the territory of the central retinal vein. It is brought about by the entrance of cerebrospinal liquor into the preformed perivascular lymphatic spaces of the axial bundle of the optic nerve and along the central vessels into the disc. The cause of the phenomenon is excessive pressure of the liquor in increased intracranial pressure (brain tumor, meningitis, etc.) or in local stasis of the fluid in the intravaginal space of the optic nerve (tumors and inflammatory processes in the orbit), persistent decrease of intraocular tension (after injuries of the eye), and collapse of the vessels of the axial bundle after profuse hemorrhages. S. proved this by the constant anatomic-pathological condition and the following experiments: the phenomenon of choked disc can be elicited in the optic nerve of any cadaver if through a fine canula, fastened into the intravaginal space proximal to the axial bundle, salt solution is injected under moderate pressure. The fluid at once spreads into the perivascular spaces of the axial bundle and creates not only edema, which can be microscopically ascertained, but also the typical changes of choked disc at the hilus of the disc. Thus it is possible to increase enormously this characteristic phenomenon on eyes of cadavers with choked disc. In such a manner S. obtained specimens in which the central vessels in the axial bundle were surrounded by a system of wide gaping

spaces, exceeding in extent the lumen of the central vessels. In the monkey, whose central vessels show the same course as the human, choked disc can be produced by injecting fluid under the dura mater of the cranial roof, which ophthalmoscopically and microscopically is identical with that in man. Incipient choked disc at first presents a bulging of the limitans interna at the hilus of the disc by an effusion of fluid, then filling of the sheathes of the larger veins emanating from the disc, soon followed by a streaky opacity of the adjoining retina. For a closer study of Schieck's experiments we refer the reader to his valuable monograph.

C. ZIMMERMANN.

EYE INJURIES BY SPLINTERED EYEGASSES. Vogt, A., Aarau, (*Centralblatt für prakt. Aug.*, 36, Dec., 1912, p. 354), reports 5 cases, in 2 of which the eyeball was cut open by pieces of eyeglasses driven into it with great force. One with prolapse of iris, which was cauterized, healed with anterior synechia. In the other, a man, aged 60, the iris and the capsule of the lens were lacerated and the yellow nucleus, measuring about 6 mm., dislocated towards the nasal side of the anterior chamber. He regained V 10/200. Rimless lenses are more apt to produce injuries than those with rims, which eventually retain the splinters in their original position.

C. ZIMMERMANN.

CONTRIBUTION TO THE ETIOLOGY OF BITEMPORAL HEMIANOPSIA WITH ESPECIAL CONSIDERATION OF DISEASES OF THE HYPOPHYSIS. Bogatsch, G., (From the eyeclinic of Prof. W. Uthoff in the University of Breslau. *Klin. Mon. für Aug.*, 50, II, September, 1912, p. 313), shows on 34 cases of Uthoff, arranged in tabular form, and 315 cases from literature, the importance of affections of the hypophysis in the diagnosis of temporal hemianopsia, and how recent statistics have changed in its favor, since in 1886 Pierre Marie directed attention to the relation between acromegaly and diseases of the hypophysis. In 19 out of the 34 cases the affection was ascertained or made very probable through operations, autopsy, or Roentgen rays. In 128 out of the 315 cases from literature, i. e., 40%, the hypophysis was diseased. The trias: temporal hemianopsia, habitus of the patient, and Roentgen skiagraph, make the diagnosis almost certain. One of these points arouses the suspicion of disease of the hypophysis, temporal hemianopsia and one of the other points render the diagnosis very probable.

C. ZIMMERMANN.

THE LESIONS OF THE EYE BY INSPERSION OF CALOMEL INTO THE CONJUNCTIVAL SAC AND SIMULTANEOUS INTERNAL USE OF THE HALOID SALTS (IODID OF POTASSIUM, BROMID OF POTASSIUM, AND CHLORID OF SODIUM). Schloms, Burghard (From the eyeclinic and pharmacological institute in the University of Greifswald. *Archiv für Augenheilkunde*, 73, p. 220), reports 37 experiments on rabbits, by which he investigated these questions, and from which he reached the following conclusions:

1. Calomel dusted into the conjunctival sac causes slight redness and swelling which very soon disappear within 24 hours. 2. In simultaneous internal medication of iodid of potassium severe inflammatory symptoms develop, leading to intense redness, swelling and edema of the conjunctiva with complete opacity and cauterization of the cornea. 3. These phenomena increase with the quantities of the drugs. 4. Inspersion of calomel into the eye and injection of larger doses of bromid of potassium are followed by intense conjunctivitis, chemosis and erosions, occasionally opacities of the cornea. They disappear relatively soon with almost complete restoration to the normal condition. 5. Application of calomel and chlorid of sodium do not cause severe changes. 6. Subbromid and subiodid of mercury produce the same slight changes as calomel. 7. Bromid and iodid of mercury are extremely irritating and caustic. 8. It can be shown in the test tube that the iodid, or the bromid, develop from calomel and a solution of iodid and bromid of potash respectively. In the first case a complex mercurial iodid salt is generated which contains mercury in non-ionic form, but its mercury can be easily converted into the ionic form. 9. Hence cauterization of the eye in applications of calomel-iodid or bromid of potash is due to the formation of iodid and bromid of mercury, not subiodid and subbromid of mercury. 10. The practical conclusion is that the inspersion of calomel and the simultaneous internal use of iodid of potassium, even in single doses, must be avoided. It must also be warned against inspersion of calomel after longer applications of bromid of potash. Inspersion of calomel and taking very salty food does not seem to be harmful to the visual organ.

C. ZIMMERMANN.

ON DISEASES OF THE OCULAR NERVES IN DIABETES MELLITUS. Hoffmann, Michael, (From the eyeclinic of Prof. C. von Hess in the University of München. *Archiv für Augenheilkunde*, 73, p. 261), reports his anatomical examinations (with illustrations) of the various nerves of the eye in 2 cases of diabetes and found changes which so far have not been described in diabetic or any other affections of the nerves. For control he also examined the nerves of eyeballs which had been enucleated on account of different diseases. In these as well as especially in the diabetic globes, (without noticeable local causes), he found accumulation of glycogen in the nerves of the eye with subsequent destructive changes of the nerves, especially the medullary sheath. He concludes that further investigations must show whether

similar histological alterations of the nerves of the eyes or other organs are regularly met with in diabetes, or in certain stages of it (lipemia, coma), and whether analogous conditions are found in local lesions of the nerves of other organs and in other general diseases.

C. ZIMMERMANN.

ON NON-GONORRHOIC OPHTHALMOBLENNORRHOEAS OF THE NEWBORN AND INFANTS. Crede-Hoerder, C., Berlin-Friedeman, (*Deutsche Medizinische Wochenschrift*, January 9, 1913, No. 2, p. 74), thinks that a microscopic examination in many cases would show, that the diagnosis of gonorrhoeic ophthalmoblenorrhoea is made too frequently. The non-gonorrhoeic form presents the following aspect: agglutination of lids, redness of the lid border and their surroundings, moderate edematous swelling of the upper lid, purulent or sero-purulent secretion, redness of conjunctiva, thin deposits on the palpebral conjunctiva, cornea clear. Its course differs very much from the gonorrhoeic form, by the intactness of the cornea and the scanty, more serous, secretion. Microscopically C. found Fraenkel's pneumococci, and bacteria coli. The treatment in his cases consisted in irrigation with boracic acid solution and in a more severe case pneumococci blennorrhoea, which commenced on the 8th day, in instillations of acetate of silver 1.3% on the first and fifth days. C. considers the careful treatment of the otherwise harmless non-gonorrhoeic ophthalmoblenorrhoea of great importance for preventing later chronic conjunctivitis, which may be very difficult to cure.

C. ZIMMERMANN.

ON THE INFLUENCE OF SALVARSAN ON THE HEARING ORGAN. Rimmi, E., Triest, (*Deutsche Medizinische Wochenschrift*, January 9, 1913, No. 2, p. 71), reports the clinical histories of 8 syphilitic patients, who a few weeks or months after injection of salvarsan became partially or totally deaf on one or both, previously healthy, ears. He assumes that a slight syphilitic process in the acoustic nerve or its ramifications in the inner ear, which before the injection of salvarsan made no marked symptom and had remained latent, while previously not reacting to mercury, suddenly flashed up. A reactive inflammation occurs in the nerve analogous to that in a lupus foetus after injection of tuberculin. Hence the greatest caution is indicated to subject luetics who present even the least disturbances of hearing, to salvarsan treatment.

C. ZIMMERMANN.

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ORIGINAL ARTICLES

ANNUAL ADDRESS OF THE PRESIDENT OF THE STATE MEDICAL SOCIETY OF WISCONSIN.*

BY ARTHUR J. PATEK, M. D.,

MILWAUKEE.

Members of the State Medical Society of Wisconsin:

The pleasure of achievement oft gives way to a conviction of honor undeserved, and although this lessens not the appreciation of the favor bestowed, it engenders a feeling of humility in the presence of those whose good will has taken this expression. In assuring you, members of this Society, of my gratitude in having placed me in the honored position of presiding officer, I am conscious of this sense of humility, and sensible of the degree of responsibility that must necessarily attach to the incumbent of this high office.

In the remarks which I shall address to you, I wish to dwell upon a number of matters of interest and concern, trusting that action of some value to the community and the profession may result therefrom.

Medical Education.

In casting about for noteworthy achievements in medicine, one may well ponder: shall we emphasize the startling advances made in biochemical researches, in the development of bacterial products, the study of organic extracts and their inter-relationship, advances in surgical methods, or diagnostic refinements? These are great achievements, each of merit, some stupendous, all far-reaching. I have in mind another achievement, an American work, that eclipses those mentioned: I refer to the wave of *educational* reform in medicine that has swept over our country, causing a flutter here, deserved destruction there, but leaving in its wake a

blazed trail in whose path there must some day spring up institutions of learning that will be on a par with the time-honored ones of Europe. A reduction in the number of our medical institutions from 166 in 1907 to 110 in 1913, is the first step toward their improvement, and great praise is due the Council on Medical Education of the A. M. A. for so thoroughly guiding the agencies at work on this problem. Low grade medical colleges must of necessity join the movement, or close their doors. Standardizing the requirements for medical practice in the various states will eventually elevate the moral, ethical and qualificational standards, without further recourse to the humiliation of compulsion by legal enactment. The additional requirement recently adopted by several institutions, of demanding a hospital internship of one year before granting diplomas to their graduates, is a noteworthy advance that permits the hope that, if the goal be constantly and persistently borne in mind, medical education in this country may some day take its place side by side with those enviable standard bearers—the schools of Germany and Austria.

A debt of gratitude, and unstinted praise, is due the Council on Medical Education of the A. M. A. for their exhaustive analysis of medical education in this country, and to the Carnegie Foundation for the Advancement of Teaching for the study of medical education in England, Germany and France. The results of these investigations will have a pronounced influence upon the further development of medical teaching in this country. The moral influence of an education that is obtained in an atmosphere that abounds in honest endeavor, conscientious appreciation of the needs of the student, and a high conception of medical ideals, cannot but leave its indelible impress, to accompany the physician long after he has wandered afar, beyond the guidance and control of his early mentors.

Fee-splitting.

If the successful enactment of any measure into law spells the decree of public opinion, then ought

*Read at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 1, 1913.

the physicians of this State to hide their heads in very shame at the enactment into law of a measure making the secret splitting of fees a crime. Humiliation is ours at the thought, and the knowledge that this reproof is deserved, is saddening. I have no fault to find with the law as passed, but I must express regret that our profession is so far distant from the realization of the strivings of those idealists who taught us to employ truth and honesty in the practice of medicine, that public condemnation and legal correction of an evil within our own ranks was made possible.

Feesplitting—the secret division of fees between two practitioners—is indefensible in theory, and reprehensible in practice. Viewed from any and every angle, there is no argument that will validate the physician's attitude of auctioneer—selling out his patient to the highest bidder. Nor can the purchaser, by any specious argument, justify his part in so foul a transaction. The practice is rampant not only among those of smaller incomes, but with those enjoying large means as well. Poverty does not justify crime any more than low wages do immorality; and certainly, cupidity lays a poor foundation for fair dealing, but builds well for moral strabismus.

How great an evil it is, here and elsewhere, can only be surmised. But whether great or small, a body of men whose calling is second to none in nobleness, whose devotion to the demands of distressed humanity is undisputed, whose willingness to give time and talent without remuneration is recognized, a profession so characterized must not put its honor in jeopardy through the toleration of acts that cannot be stamped as other than dishonorable and dishonest.

Where lies the remedy, and how can it be applied? Retaining a little faith in the good that is in all of us, idealists looked for a solution to the medical schools that gradually evolved from the benighted state of proprietorship into integral parts of larger institutions; to medical teaching, which, in consequence, thus found an opportunity to advance to a higher plane; to longer courses of study under well trained instructors, encouraging the student's contact with men of quality; to the gradual elimination of the unfit, and the uplifting influence of the broadening education of better schools of medicine. But alas! All this has not served to reduce the evil practice to a negligible factor. The law recently passed, will doubtless have a pronounced deterring influence in individual

cases, and in this indirect manner may prove a moral force to those who seek refuge in its embrace. But feesplitting cannot be abrogated by law; it can be routed only if physicians can be made to appreciate that it is a degrading business, a betrayal of confidence, and an utter disregard of the professional relations of physician and patient. I believe this Society should record itself as unalterably opposed to this pernicious practice, and I would suggest the appointment of a committee to make a thorough investigation into the evil as it exists in Wisconsin, this committee to make its report with suitable recommendations at the next annual meeting of this Society. Should information of value be gathered in this manner, vulnerable crevices in the armor of the feesplitters can doubtless be uncovered.

Surgery.

While the physician should at all times be considered a potent force for good, his potentiality for evil is undisputed. Ignorance is not always a crime, but when the physician or surgeon exemplifies the adage: "fools step in where angels fear to tread," then does ignorance become a crime, and then does the professional man so acting become a criminal in accordance with any moral code. Is it right that everyone possessing a diploma and license to practice medicine and surgery, practice these branches without hindrance and without supervisory control? I place myself in the position of the interested spectator—the layman—in demanding that a man do no more than his information and experience entitle him to do; that he recognize his own limitations; that when a serious interference is contemplated, he satisfy himself that he is a proper and qualified person to undertake this assault upon the patient; that he exert himself in behalf of his patient, thereby furthering his own aim and end as well. Is it not humiliating to read of the efforts being made, ever and anon, by legislators, to consider the removal of a healthy appendix by operation a criminal assault and punishable as such? Does it not on its very face suggest an impertinent conceit on the part of an overbearing legislator?—an aim to minimize the value of surgical endeavor?—an effort to parade the fallibility of diagnostic acumen?—to degrade the professional enthusiast before those he professes to serve?

Such a proposed regulation must indeed seem an act of ignorance and arrogance. But it is that?

Verily, did you remove the curtain of comedy from this act, you would probably find it staged upon tragedy. Who of us has not seen or heard of an attempted simple hernia operation that proved to be a mere incision with inability to remedy the defect—the patient much the worse for the attack? Who of us does not know of the man who essayed to remove ovaries by laparotomy, and through sheer incompetency could not locate them within the pelvis? Can you justify an exploratory laparotomy's yielding a diagnosis of inoperable sarcoma in a young man giving a history of acute onset of illness, an immediately subsequent operation disclosing a suppurating appendicitis?

No longer need we wonder that the framer of the proposed law endeavored to compel the man who essays surgery to give a bond of competency by asking him to consider seriously the responsibility he assumed. We see the tragedy that gave birth to the thought. I hold no brief for the surgeon of big repute and unquestioned skill; but my plea is for the better equipment of those essaying to attack the human body medically and surgically, this end to be accomplished through hospital training after graduation, postgraduate work, by assisting those more skilled, and by asking skilled hands to assist when one knows oneself to be insufficiently prepared. The increased medical curriculum, and, as already noted, that including one year of hospital work under the medical college's supervision, will, when generally adopted, greatly improve the present deplorable state. And, better still, the establishment of an American College of Surgeons, as recently proposed, will stimulate to greater study those whose ambition lies in this field of medical endeavor.

Cancer.

One of the phenomenal events of the past decade, strikingly illustrating the awakening of the public mind to a proper concern of problems of health, is the interest that has been aroused in the study of tuberculosis. Is it not a curious circumstance that propaganda in matters of the gravest importance are often first given the force and prominence they deserve by those whose interest is an extraneous one—solely from the standpoint of the onlooker—the quasi-disinterested observer? In matters of medical concern the following observation holds good: the study of the problem of tuberculosis was given a greater impetus by the interested lay people than by the physicians themselves, after

the pioneers in this study had brought the former into successful enlistment. I believe the facts warrant the statement that only after popular opinion had voiced its acquiescence in the existence of a tuberculosis problem, did the mass of physicians feel and respond to the prodding of the public. They awoke from their lethargy to the consciousness that they had long been shouldering a responsibility to the public the magnitude of which they had no adequate conception. It were insincere on my part to make this assertion without offering an extenuating explanation: I believe this is in part due to indifference, in part to inability and unwillingness to grasp things and truths and concepts that are fundamentally different from the daily routine; but that in far greater part, it is the result of the nature of the physician's work—his absorption in his labor, his incapacity for more than a normal or average human amount of devotion to a humane calling.

It will be conceded that statistical records alone have been a forceful argument and productive of good, in the control of this disease, even in advance of the general educational campaign that followed in its wake. Another disease, also a scourge whose vehemence as to morbidity is but half appreciated, is now claiming a share of the world's attention, and we may hope that the mere mention of a few numerical facts, demonstrating the incidence of *cancer*, and proving the rapid and actual increase of the disease, will cause an awakening of far-reaching effect. The following brief statements are noteworthy: the estimated annual mortality from cancer in the United States is 75,000; and in the civilized world, half a million. The cancer death rate of large American cities has increased from 37.2 per hundred thousand population during the five years ending with 1876, to 80.5 during the five years ending with 1911. The cancer death rate in the United States is increasing at the rate of 2.5 per cent. per annum.

So much for figures. What has already been stated as bearing in retrospect upon facts connected with the early propaganda in the matter of tuberculosis, will probably suffer repetition in the study of this other disease. The public has already been appealed to and the dissemination of facts concerning cancer is in contemplation: the people are to be instructed as to the character and danger of malignant disease; they are to be taught that the earliest warning signals must be heeded; it will be demonstrated to them that early recognition means

a large percentage of permanent recoveries; and a hearty co-operation of the interested laymen will make possible exhaustive studies that will bring us nearer the coveted goal—the discovery of the cause of the disease, and its eventual control.

There has now been organized in New York City, the American Society for the Control of Cancer. This Society has the support and endorsement of eastern medical and lay bodies, and other organizations, local and state, for similar researches, will doubtless follow. Mindful of the importance this investigation must assume, I hereby propose that this State Society take suitable action, and I therefore recommend the appointment of a committee of five for the study of the cancer problem in this state, to be known as the "Wisconsin Commission for the Study of Cancer"; that this body be given power to make the scope of its investigation as broad as it may desire; that a sum of money, such as in the Society's opinion may seem proper, be appropriated for the furtherance of this inquiry; and that this Commission shall report upon its work in the State Journal at such times as it may see fit, and shall submit an exhaustive report of its labors to the assembled Society at its next annual meeting. If, in obedience to your pleasure, such a Commission shall be appointed, I bespeak for it the active support of all, in every and any manner in which such aid may be asked. May it never be said of us that through our own failure to do so, there was required the prod of public opinion to force upon us the stern truth that in considering the subject of cancer, we were no longer dealing with a mere casual disease, but with a scourge of ever increasing virulence and vastness.

The Workmen's Compensation Act.

The passage of the Workmen's Compensation Act, which marks another notch in the tree of progressive legislation in Wisconsin, will bring the physician into closer union with industrial enterprises. While his function has hitherto been limited to that of treating the ill and injured, the far more difficult problems will now devolve upon him of assisting in estimating the financial value of disability, the character of injury, the length of disability, whether total or partial, the compensation; forming an opinion as to when work may be resumed; helping in the elimination of the malingerer, etc. And while the physicians retained by casualty companies have acquired a certain degree of familiarity with this work, the statewide acceptance of the act by industrial companies will grad-

ually eliminate the casualty company as a factor, and make it essential for the large mass of physicians to familiarize themselves with the provisions of the law, if they hope to be successful in their new relations toward the employers of men. This Act has a further purifying function in that it will, to a degree at any rate, eliminate the ambulance chaser, that lawless parasite who lawfully plies his vicious and despicable trade.

Medical Legislation.

Wisconsin, the home of much constructive legislation, has again demonstrated herself in the vanguard in new legislation pertaining to and affecting the health of its citizens.

During the past legislative session much time and effort were spent in the support of measures that bore directly upon the relation of the profession to the public. I refrain, and advisedly so, from speaking of these as measures of interest to the medical profession, for fear lest some poorly informed or contrary-minded individual should construe my words as indicating that physicians are constantly on the search for new means of diverting, through a limited trust, the money of the people into their own coffers. It might be pertinent here to express wonderment that any attempted regulation of medical practice is frowned upon by the majority of sane individuals, and is immediately presumed to indicate the grasping nature of the physician, his intolerance of the rights of others, and his unwillingness to concede honest purpose on the part of others. It is sad that men's motives are so often misunderstood; that be they ever so honest of purpose, be their ideas ever so altruistic, they will be charged with the gravest selfishness and deceit. I am firmly convinced that in the vast majority of instances of attempted legislation, and I have been identified with many, no thought of personal aggrandizement has entered into the thoughts of the promoters, and that it is the rankest misstatement and injustice to ascribe base motive to honest endeavor for the good of the people.

And here a word of criticism: I cannot but believe that an error has been committed in the method pursued by our Society in handling the situation, and that to this faulty method is due, in great measure, the skepticism of the public. This error consists of putting into the hands of a few men the entire responsibility for the legislative activity of the Society, and in permitting a spirit

of apathy to reign among the rank and file. A further error exists in relying upon the constant activity of certain tried and true workers, and in failing to instill into others a desire for active co-operation, even failing to create their passive interest in the direct and collateral affairs of the profession. While I can see the preposterousness of the opposition's claim, I can understand the motive for the charge that all medical legislation is being furthered in the interest of a few, because it is these same few who are constantly appearing as advocates in the legislative halls. It is time that the apathetic attitude of the profession toward those to whom is entrusted the framing and support of legal regulations, give way to one of helpfulness and support. The single-handed fight which has so often been waged in the interest of the many, is disheartening, and were there not a handful of loyal workers in full regalia, ready to leap into the fray at the call for aid, the League of Medical Freedom would prove a far more redoubtable opponent than it has hitherto proven to be. My plea is, therefore, that in the construction of legislative committees only those be selected who can and will serve, and who show ability and talent for this character of work. Furthermore, I would ask that each county society make equally sagacious appointments, and that the Legislative Committee of the State Society secure the services of some individual, whose duty it shall be to act as a legislative secretary, apprising state, county and local committees of the character of bills projected, and counseling with them upon the course to be pursued. Only by some such fixed and concerted plan will proper publicity be given to the physicians of measures in which they hold some interest, and will it be possible to apprise the people and the physicians of measures designed to favor and further the best interests of all. And only in such a manner will it be possible to effectually curb the activities of the League of Medical Freedom. Assuredly, *that* is not the body in whose control medical legislation ought to be vested.

During the last legislative session monumental work was done. Consideration given to the subject of eugenics has evolved a law that heralds a new era in the campaign for the prevention of preventable diseases in Wisconsin. The measure that has now become a law compels a medical attest of the health of one of the contracting parties, forbids consanguineous marriages, bars from marriage the epileptic, insane, and those having transmissible

diseases, and provides for the sterilization of habitual criminals, insane, the feeble-minded and epileptic in public houses and asylums—all subject to certain reasonable restrictions.

Attention has again been directed to the tuberculosis problem in granting the use of the state forestry lands for the erection of shacks for the tuberculous, thus adding materially to the public facilities already in force for the gradual reduction of the cases of tuberculosis.

The State Board of Health profits materially by some amendments to the existing statutes affecting its organization. Its general advisory capacity has been enlarged; greater powers in matters of sanitation have been accorded it; provision has been made for the organization of a force of deputy health officers who are under the direct orders and supervision of the executive secretary, and whose mission will be to represent the latter in whatever part of the state such representation may be needed.

Well and deservedly may we be proud of a state which in one session of its legislative body has made so many beneficent laws designed to improve the physical and moral welfare of its people.

Having dwelt at length upon matters of general interest to the profession, I wish now to give brief consideration to subjects of more or less local, that is, state concern.

I need hardly give thought to the State Medical Journal—the medium of expression of our members. Its success is assured, and it ranks with other journals in the excellent character of its articles and in its general high tone.

Medical Defense has taken high rank among the perquisites of membership in the Society, and were the work of this institution sufficiently known, the benefits it offers would be better appreciated. It is regrettable that there are some who are not yet convinced that Medical Defense is, or has proven, a thing of value, and a privilege of membership to be valued. The annual reports filed by the committee in charge ought to disarm any adverse criticism.

If there is reason for criticism of the members of the Society, complaint may be lodged for apathy in many matters of vital concern to them as individuals, and affecting them as units composing the mass of the profession. Such a complaint is not wholly unjust. And, on the other hand, if individual members of the Society have found reason for disaffection, and would voice their disapproval of any of the policies of the Society, I be-

lieve the opportunity afforded through the official publication should be grasped for the expression of such opinion. The Journal is published by and in the interests of the Society, and there need be no hesitancy on the part of any one in asking for a hearing.

I trust, Members of the Association, that the efforts made by the various committees to provide food for mind and body, in proper and palatable proportion, will not only meet with your approbation, but will convince you of the benefits of organization, of this organization more particularly, and the profit of an annual interchange of medical thought in a congenial atmosphere.

I thank you.

THE PATHOLOGIC AND THERAPEUTIC POSSIBILITIES OF UPPER MAXILLARY CONTRACTION AND EXPANSION.*

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The trend of modern progress in the study of disease is unquestionably toward recognition of underlying chemo-vital principles which may be held accountable for trophic changes and other influences pertaining to general as well as local developmental progress and the nervous disorders to which these as well as other physiologic and pathologic conditions may be subject. The dissociated consideration of clinical and pathologic manifestations has undoubtedly led to the designation of many affections under distinct terms which, it is not at all impossible, may in the near future be understood to be expressions of the same underlying etiologic factors, and therefore in a primary sense more or less identical in character.

The illustrations of clinical and experimental results that are presented for your consideration today cover a wide range of affections. They are designed to emphasize the possibility of a very much more extended association between defective nasal and maxillary development with their consequent pathologic states and influences, and general development, trophic changes, nervous disorders, as well as other more or less remote affections, than is commonly recognized in this relation.

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Certain features of the etiologic, pathologic and structural considerations which bear upon the influences of these ora-nasal factors in disease are well understood. Other causal factors though recognized as important to pathologic manifestations in other regions are not generally accepted as being of nasal and maxillary origin. A third division, must for the present at least, depend to some extent upon the more or less theoretic application of certain developmental features. This connection, in the absence of definite knowledge, can only be established by comparative consideration of certain vital phenomena which viewed in the light of experimental results, clinical manifestations, and the more or less arbitrary application of better understood laws governing bodily growth and metabolism appear to share at least a measure of interdependence.

The clinical relation of irregularities of teeth, contracted dental arches, and high palatal vaults, to nasal defects which are intimately associated with diseases of the nose, throat, ear, nasal accessory sinuses, and bronchial and pneumonic affections, is well understood.

Much of the widespread ill results of these disorders, and the marked benefit that is almost invariably evident when nasal relief is given by maxillary expansion, effected through spreading the upper dental arch, may readily be accounted for along these lines. There is, however, a growing feeling that the causes of both the ill results from such conditions, when neglected, and the benefits that have been noted from their correction, lie much deeper than may be accounted for altogether by these etiologic and pathologic factors.

The close connection of the ductless gland series, which includes the hypophysis, thymus, and thyroid glands, with bodily growth and its antithesis, arrest of development, and also with nervous states and organic function has forced recognition through an abundance of clinical evidence, corroborated and systematized by scientific research and particularly animal experimentation. The most valuable record of achievements in this direction has recently been presented by Dr. Harvey Cushing in his work "The Pituitary Body and Its Disorders." He records certain syndromes as appearing when the anterior lobes of the hypophysis of dogs were severed or disjoined, and certain other quite distinctive syndromes as resulting from similar treatment of the posterior portion of this body.

Following the classification previously adopted

in the case of the thyroid gland Cushing has applied the terms hyper-pituitarism as indicating a state of over-activity, and hypopituitarism to describe states of under-activity of the pituitary, and since these two terms were found to be clinically misleading because of conditions which presented a blending of the symptoms of each of these forms of functional disorder, the term dyspituitarism became necessary to describe the states due to perverted function of the hypophysis. He also suggests the following subdivisions for each of the five clinical groups under which he has classified the states of dyspituitarism:

“(1) The case in which the clinical manifestations of past or of existing hyperpituitarism predominate (more particularly over-growth, resulting in gigantism when the process antedates ossification of the epiphyses and in acromegaly when it is of later occurrence); (2) those in which the clinical manifestations of hypopituitarism predominate (adiposity, with a persistence of both skeletal and sexual infantilism when the process originates in childhood, or adiposity with sexual infantilism of the reversive form when it originates in the adult; and (3) the mixed or transition cases exhibiting some features of both states—in other words, with evident dyspituitarism.”

He further states that there may be combinations of inactivity of the posterior lobe with over-activity of the anterior lobe; a combination of overactivity of the posterior lobe with anterior lobe deficiency; and finally a combination showing either overactivity of both lobes or deficiency of both lobes; and that all these possible states may occur either before or after adolescence and lead to very different clinical pictures.

Without attempting detailed description it appears to be sufficient for us to call to mind briefly the potent possibilities of influence from this region when we contemplate certain well known and commonly accepted facts pertaining to bodily disorders, and apply these as directly as possible in accounting for oral defects. Recognition of these considerations lends interest to the result of the experiments of the late Dr. Anderson of Detroit who closed the nasal openings of guinea-pigs, rabbits and dogs with cotton by suturing the external nares, and my own treatment of puppies by which approximately the same conditions were brought about in a quite natural way by preventing growth across the maxillae in the region of the palate as shown by the illustrations.

In all of these it may be noted there is a general tendency to the development of symptoms not unlike those found among children with contracted upper dental arches and high narrow palatal vaults which are familiar to all.

In regard to the treatment of these conditions it may be said that disinterested reports from rhinologists whose cases have been referred for treatment of this character and the testimony of the patients themselves who invariably report freer nasal breathing and other outward indications of relief seem to prove unquestionably that the size of the nares is increased. There is also a corresponding tendency toward straightening of the deflected nasal septum and an improvement in the hypertrophic nasal conditions such as are almost invariably present, which seems to prove that there is an increase in the size of the nares and that the other benefits follow when the upper maxillae have been forced apart by separation through the median palatine suture. Since this is apparently accomplished without appreciable local or general disturbance there can be no reasonable objection to treatment of this character and there is every reason to believe that its early application might do much to prevent nasal deflection of this character. Whether the relief is absolutely accomplished because of separation through the median palatine suture or through some other means is after all beside the question, in as much as the clinical results which represent the really vital issues are so uniform and so marked that the actual explanation of the anatomical changes through which they may be accomplished is really secondary in importance. Notwithstanding this, however, those of us who have been familiar with this work for many years believe the simplest and most direct explanation is that the nasal processes of the superior maxillary bones are forced apart when these bones are separated by direct pressure across the palate and they carry with them, to some extent at least, the attached nasal bones. Thus there is an actual increase in the internal measurements of the width of the nose. It also makes possible a separation of the ridges which form a groove for reception of the vomer. This allows the natural resiliency of the septum to take advantage of the additional space thus afforded with corresponding tendency toward straightening of its curvatures. Undoubtedly these results are enhanced by stretching of the palate bones and forcing outward the resistant external plate of the maxillary bones as force is applied.

The increased volume of air thus permitted reduces hypertrophic conditions of the intra-nasal soft tissues, and gives freedom in the region of the ostia of the nasal accessory sinuses which permits better drainage, and aeration of these cavities with marked increase in their healthfulness.

Other pathologic indications of imperfect respiratory conditions, and corresponding evidences of individual improvement might also be adduced, but it is when inversely considered that the results of this animal experimentation become most interesting because in these creatures all questions of heredity, degenerate tendency and like factors must be excluded.

Anderson's summary of the result of his experiments is as follows:

1. That nasal obstruction leads to death, or serious impairment of vitality.
2. That the lowered resistance predisposes to

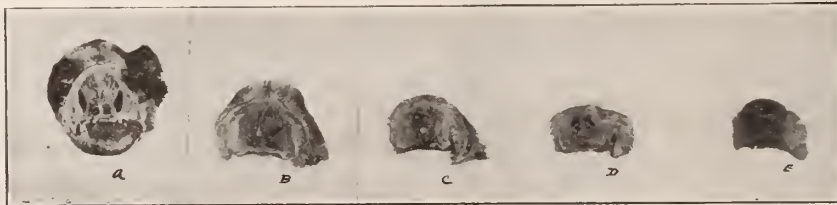


Fig. 1.

Fig. 1.—Sections of head of puppy six months old, with jaws arrested in development across the palate by wiring at eight weeks old. These sections show plainly the contracted effect upon the nares, the deviation of the nasal septum, especially the section shown in c, the point at which the wire was inserted and development arrested.

infections (particularly broncho-pneumonia, seropurulent pleurisy, and similar affections).

3. That local disease of the respiratory tract is induced.
4. That obstruction of the nostrils leads to dilatation of the heart.
5. That changes in the skin and the blood of the dogs occur.
6. That symptoms resembling asthma and emphysema may be induced in the lower animals.
7. That emphysema of the lungs can be demonstrated histologically.

8. That re-opening the occluded nostrils is followed by prompt disappearance of the symptoms.

After careful study of animals operated upon by Dr. Anderson and his reports of his experiments, it seemed to me that it would be important to prove that contracted nares, deflected nasal septa, and the diseased conditions which follow in their train could be produced without artificial means other

than that which might be required to prevent growth across the upper maxillae. In other words to produce partial or complete nasal stenosis without suturing the external nares but by reproducing actual developmental conditions as nearly as possible like those found in children in whom mouth breathing is a marked objective symptom in association with contracted dental arches, high narrow palatal vaults, nasal defects, etc. Those who had become familiar with the form of the nasal passages of dogs agreed that in as much as dogs breathe almost exclusively through the nose, if nasal defects similar to those with which humans are so frequently affected could be produced merely by restricting normal growth in the upper maxillary bones across the palate, it would be conclusive evidence of the etiologic importance of any factor which might cause a like result. These experiments were undertaken in the Biological and Re-

search Department of the Parke-Davis Laboratory in Detroit, to whom I am indebted for the opportunity, and with the assistance of Dr. Ferry and his associates whose assistance was at all times of great value. The first series of these experiments I have previously reported and as the succeeding ones were treated in the same manner the following quotation may properly include them all:

"Several pups eight weeks old were operated upon by passing wires through the maxillae from a point above the roots of the teeth upon one side above the palate and out at a corresponding point upon the opposite side. The palate was compressed sufficiently to force the upper teeth inside or in lingual occlusion with the lowers, so that the upper and lower jaws of these puppies were placed in about the same occlusal relation that exists with growing children whose bicuspid teeth meet the corresponding lower teeth in lingual (inside) instead of buccal (outside) or normal occlusion. Not

nearly so much force in compression was used as would be necessary to close a palate fissure according to the method which was formerly widely practiced upon infants with cleft palate. The purpose was to reproduce as nearly as possible the maxillary conditions of typical cases of mouth-breathing children. One pup was kept without operation as a control and all were allowed to develop until they reached the age of six months, which it was estimated would approximately correspond to the age of a child of eight or nine years. The puppies were then killed, the heads frozen and sections cut through the nose and upper jaws at short intervals. The result is shown in Fig. 1, a, b, c, d, e, and Fig. 2, a, b, c, d, e. Marked difference between the nares will be noted throughout both series but the section marked c in each is exactly at the point where compression was made. The almost complete stenosis in Fig. 1, c contrasting quite strongly with the same section in Fig. 2, c."

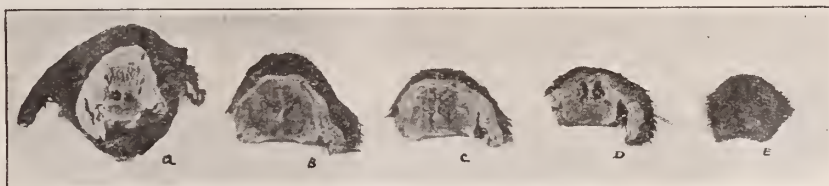


Fig. 2.

Fig. 2.—The same ages as Fig. 1, upon which no operation was performed.

In the course of this experimental work on dogs other symptoms were noted in the puppies that were quite similar to those found in children whose upper jaws were similarly although more naturally constricted. The ones operated upon developed a high degree of nervousness which corresponded to the nervous conditions of such children, and in as much as the nervousness of the dogs was apparently caused by the effect of buccal and nasal conditions it offered a fair explanation of the clinical experience that these children almost invariably became less nervous after the expansion appliance had been inserted and a measure of maxillary and nasal relief thus afforded.

The almost perfect resistance of the pharyngeal and bronchial mucous membrane of healthy dogs to the action of pathogenic bacteria has been proven by experimentation. This is lost when the air passages are obstructed from any cause. The marked susceptibility to infection thus produced in these pups was undoubtedly accountable for congestion of the lungs found in one of the experi-

ment pups and other evidences of disease in others. This was exactly in accordance with the frequent colds, bronchitis, and tendency to pneumonic affections that are characteristic of all mouth breathing children.

The enlarged maxillary sinuses of the experiment pups when compared with the slit like openings of the normal dog are also in accord with the clinical evidence that individuals affected by high, narrow, contracted palates and nasal defects almost invariably have enlarged, and, as is now becoming better understood, diseased nasal accessory sinuses also (See Figs. 1 a-e, 2 a-e)

All the puppies operated upon were given the same food and care as the control pup but by the time they were all six months old there was marked difference in size. The control pup was nearly twice as large and fat as the others and in all respects in good condition. One of the experiment pups died before the expiration of this period

and was almost a mass of skin and bone. The ones that lived were emaciated and their general as well as local development appeared to be almost wholly arrested. This result was analogous to one of the features of the effects of maxillary separation and nasal expansion in the treatment of children, for it has been a matter of gratification and of much scientific interest to note the more or less marked stimulation of constructive trophic changes that frequently occur during the course of this treatment. Increase in weight and prompt stimulation of general growth has frequently resulted in these cases and has been especially marked in children whose small size indicated that the natural development to be expected in accordance with their ages had for some reason been arrested.

In all the animals experimented upon, aside from local changes that were artificially produced there were marked effects upon trophic changes and alterations in growth that should be considered in conjunction with similar appearances and results that are more or less noticeable in the vast

majority of human cases presenting defective nasal and maxillary development. Their appearance suggested that there is a good and sufficient foundation for the belief that the relation between influences which affect the growth centres of the brain and those which concern the nasal maxillary region is much nearer than has ever been understood. This thought lends the color of reasonable possibility to the supposition that since arrest of maxillary development by purely mechanical means has caused perverted nasal development in healthy animals, together with arrest of general growth, serious nervous symptoms, and pathologic conditions of the respiratory organs, then the separation of the maxillae, by giving greater freedom to the development of the other bones of the face and skull particularly at its base, might exert an influence upon the form of the sella turcica, and through this means, in some degree at least, upon the hypophysis, and through this again upon the development of mental functions in a more general way.

The concentration of all this canine and human evidence has crystalized itself in our minds into the belief that there is a more direct transmission of influences between the growth centres of the brain and the naso-maxillary region than has been commonly appreciated.

The experiments I now have under way in an effort to prove the truth or falsity of these positions are not completed and will necessarily require time to secure positive results, but by way of preparation it seems advisable at this time to consider some of the evidence which has lead to our present



Fig. 3.

Fig. 3.—Face of boy nine years old. Typical case of mouth breathing, contracted dental arches, etc.

expectation that there is a great underlying principle which, if understood, would be far reaching in its effect upon nervous and other diseases of general as well as local character. It is well known that the region of the face, nose, mouth and jaws give frequent evidence to the so-called stigmata of



Fig. 4.

Fig. 4.—Characteristically uneven shoulder blades of same boy as shown in Fig. 3.

degeneracy. A neurotic tendency is commonly associated with contracted palates, irregular dental arches, and nasal defects.

It seems to be of more than passing importance to note that among the early evidences of acromegaly the notable features are prognathism of the jaw, enlargement in the region of the shoulders and the extremities, that certain infections are also particularly evident in the extremities, as the spade-shaped finger tips of tuberculosis, more or less similar effects from pneumonia; alterations in form which appear in the course of rheumatic affections; the characteristic enlargement of the face and neck in angioneurotic edema, or the wasting of facial hemiatrophy, and so on through the large number of affections that might be cited to prove, if necessary, that certain local as well as general atrophic and hypertrophic conditions occur not only during the pre-adolescent period of development, but at all periods of life which can only be satisfactorily accounted for by recognition of some distinctive governing influence, the stimulation or impairment of which must be held to account for this condition.

The question thus arises, can factors governing the growth of other parts be affected by nasal and



Fig. 5.

Fig. 5.—Enlarged thumbs and palmar wasting shown in hands of boy illustrated in Fig. 3.

maxillary relief beyond the natural constructive processes which might reasonably be expected from improved respiration? Careful study of the general form of patients that were sent to me by rhinologists for maxillary expansion because of the usual train of symptoms found in cases of deflected

nasal septum, contracted nares, mouth breathing, high narrow palatal vaults, and the usual adenoids and enlarged tonsils, has brought to light certain interesting features. In a number of patients one side of the face was found to be more developed than the other and this was evident in a degree



Fig. 6.

Fig. 6.—Feet of boy shown in Fig. 3.



Fig. 7.

Fig. 7.—Skiagram of the head of one of these patients showing the enormous size of the frontal sinus and the peculiarly restricted sella turcica which is outlined with white dots. In this case there were not only peculiarities of growth of shoulder blades and other parts but a correspondingly limited mentality. Just how much benefit maxillary expansion may ultimately accomplish for this patient of twenty-five years it is too early to attempt to decide at this time, but a measure of relief has been given to his almost constant head aches and other symptoms of frontal sinus disease seem to have abated or entirely disappeared. General trophic as well as nervous conditions seem to be improved.

beyond that which would naturally be expected from the existing dental irregularity. Many of them were found to have one shoulder-blade larger than the other. See Figs. 4-7. Quite frequently they had also slight curvatures of the spinal column. In others again palmar wasting and an enlarged appearance of the thumb upon one hand was apparent. Fig. 5. In others still contraction of the toes, and in others maldevelopment of one foot upon the affected side was noted. Fig. 6. It is well known that collectively these symptoms represent certain types of muscular dystrophy.

plied and the influence of mouth treatment be much extended in its beneficial aspect.

Just where the line of demarcation should be drawn in any instance between muscular atrophy which notes the beginning of a progressive condition that may be expected to lead on to paralysis, and one of such character that its progress will be arrested in natural course without necessarily causing a state of helplessness and endangering life, is often difficult to decide. It must also be more or less a matter of speculation, when the progress of the disease has ceased during treatment



Fig. 8.

Fig. 8.—Skiagram of the head of a man thirty years old. Shows the same large frontal sinus as Figs. 8-9 and a large sella turcica, the individual himself being a man of large size. In his case a grave and almost hopeless general nervous condition was apparently overcome and a complete cure effected with no other treatment than separation of his upper maxillae, and the incidental freer drainage of the nasal accessory sinuses with consequently improved respiratory conditions, and regular outdoor exercise. No one of the individuals who watched this case throughout the course of treatment has the slightest doubt of the directly beneficial influence of spreading the upper maxillae.

Without doubt many cases which dentists treat for the correction of dental irregularities are merely expressions of some more general affection. Although the regulation of the teeth does have a wider beneficial influence than is usually contemplated when such procedures are undertaken, a more general examination of the developmental condition of such patients would undoubtedly lead to the detection of many diseases at an early stage when curative treatment could be successfully ap-

plied with apparent restoration or increased usefulness of the affected parts, to determine just how much or how little the actual remedial measures may have accomplished, but the indications in such cases seem to warrant the following conclusions. (1) The centers governing trophic changes, especially when these show pathological alterations in the region of the face and jaws may be directly benefited by maxillary separation which, as already stated, relieves nerve tension and compression in

the region of the jaws and teeth, widens the nares, and thus makes possible better respiration; (2) in young persons it is only reasonable to expect the effect of expansion in the lower regions of the face to favor also greater freedom of growth in the higher structures at the base of the skull in which are situated the larger foramina through which the cranial nerves and their important accompanying vessels emerge, compression of any one of which would be capable of causing both local and general disturbance of far-reaching character; (3) it is not impossible for this influence to extend still higher

fact that they undoubtedly deserve to be recognized as forms of muscular dystrophy. The results of treatment are apparent in both general and local improvement.

After approximately fifteen years continuous experience in widening dental arches by rapid expansion for the purpose of enlarging the nares through separation of the median palatine suture, or as I have previously called it "readjustment of the maxillary bones", with almost invariably satisfactory results in giving at least a measure of intranasal relief, it is with surprise that I note a more or



Fig. 9.

Fig. 9.—Skiagram of the head of a young man twenty years old which shows an enlarged frontal sinus and a very large sella turcica. In this case there was evidence of a tendency to acromegaly noticeable in the very much enlarged lower jaw which was prognathous with the lower teeth extending beyond the upper three-eighths of an inch. He had also the characteristic broad fleshy nose and thick lips, chubby hands and square shaped finger tips described by Cushing as cases of hypopituitarism. Extreme sensitiveness of his eyes threatened loss of vision although examinations by oculists revealed no local condition to account for this affection. These together with excessive nervousness had obliged him to give up school. Almost immediately following spreading of the upper arch and wide separation of the central incisors which indicated maxillary separation his nervousness and the eye conditions began to improve. In a short time he was able to continue and has since finished his college course. He is now in business and apparently unaffected by his previous trouble.

until it could affect the form of the sella turcica and thus reach the hypophysis which is now recognized as an influential factor in aberrations of growth.

The examples shown, all of which are essentially alike, appear to be dental and facial irregularities of development of not uncommon type, yet further study of their histories and symptoms reveals the

less marked tendency among orthodontists to question the practicability of this simple process. The more so, because the idea is not new. Undoubtedly most of those who regulate teeth according to the older and perhaps somewhat cruder methods have occasionally been more or less alarmed by the unexpected parting of the central incisors through separation of the maxillary bones. Usually refer-

ences that have been made to this condition were formerly along the line of caution against its occurrence.

Dr. Clark L. Goddard in Kirk's "American Text-Book of Operative Dentistry" (the Second

sis. Such separation was first recorded by Dr. E. C. Angell of California in 1885, and has been noticed by Guilford, Black, Talbot, Farrar, Ottolengui, and others since.

Bogue and other operators with whom I have



Fig. 10.

Fig. 10.—Skiagram showing the opposite type of development. Instead of being short and broad as was the case with the patient represented in Fig. 9, this girl of eleven years was tall, thin, illnourished and so nervous as to be almost a chronic invalid. Marked improvement followed separation of the upper maxillae and the establishment of freer nasal respiration.

Edition of which was published in 1900) makes the following reference:

"Separation of the Superior Maxillae at the Symphysis." When strong pressure is applied upon molars and bicuspid to spread the arch the superior maxillae may be separated at the symphy-

discussed the subject described having had similar experiences. Dr. F. M. Willis, of Utica, N. Y., in the Dental Cosmos (July, 1911, pp. 784-86) gives a very clear description of some cases in which successful results were obtained through separation of the maxillary bones, and Dr. Varney of Cleveland, and Dr. Germain of Cincinnati also contributed much evidence in this direction.

In my own early practice I have sometimes been quite seriously alarmed by having caused it inadvertently. The first case in which I performed this operation for the specific purpose of immediately increasing the width of the nares, in a case of almost total deafness, in order that Dr. Nelson M. Black of Milwaukee might be able to catheterize the Eustachian tubes to relieve the oral conditions has been widely reported, as have many cases since treated in association with many rhinologists in widely different parts of this country. In fact so many such results have been published or otherwise



Fig. 11.

Fig. 11.—Skiagram of the palate after the maxillae were separated in the mouth of a boy thirteen years old.

recently reported that only a passing notice is practicable at this time.

In support of my own belief I offer the following summarized evidence in proof that it is at least well founded.

1. Large numbers of cases in which within a period of approximately seven days to two weeks the central incisors have moved apart without the direct application of any force whatever to these teeth, with corresponding intra-nasal enlargement, and with evidence of such prompt improvement through better drainage that the shortness of time



Fig. 12.

Fig. 12.—Shows that there was a marked separation between the nasal process of the superior maxillary and the nasal bone. In this case the change in the nose was evident to the naked eye and could be noted by digital examination also. The same condition has been noted in many cases of young patients when a wide separation has been required to correct nasal and maxillary conditions.

alone would seem to preclude the possibility of this benefit being brought about in a more indirect manner.

2. I have demonstrated by the use of a green skull that force applied across the palate can be made to separate the median palatine suture through its entire length and also the intra-maxillary suture, and that the width of the nares can thus be actually increased.

The pictures of a green skull thus treated have been widely published and the head itself with these

sutures separated and the appliance in place was exhibited at the meeting of the American Medical Association in Chicago in connection with a paper



Fig. 13.

Fig. 13.—Skiagram of the mouth of a young man 18 years old taken exactly twenty days after the separating appliance was applied. In this case there was a marked perverted tendency as reported by his father and a distinct improvement in his ability to study which was shown as he continued his University course.

read before the Section of Stomatology of that Association. Moreover, the actual separation was accomplished in the presence of reliable witnesses. This statement appears to be called for because I have been given to understand that others have not been successful in accomplishing a like result. Personally I do not consider this a very accurate test. There are many conditions pertaining to the character of the specimen, the nature and direction of the force applied, as well as other questions that may tend to alter the results in this kind of de-



Fig. 14.

Fig. 14.—Skiagram of the mouth of a young man 18 years old referred from the University of Wisconsin because he failed to keep up with his work during the first semester. After expansion he was enabled to continue attendance and make satisfactory progress. Increase in growth during the succeeding year was noticeable. He also had good health and a freedom from colds and bronchial trouble such as he had never previously enjoyed.

monstration. It did, however, prove that when separation does take place along the line of this suture, as a result of force applied across the palate, it is complete and the nasal chambers are correspondingly widened.

3. I have had one case of fracture due to an accident with a mortorcycle, the jar of which forced



Fig. 15.

Fig. 15.—Skiagram of the mouth of a girl eight years old. (a) Showing appliance in place but before pressure has been applied, taken June 29, 1913. (b) The same mouth July 29, 1913. This result might have been secured much earlier except for delays which occurred by the patient being out of the city.

the lower jaw against the upper in such a manner as to force the maxillae apart. In this case the maxillary bones were so widely separated that the overlying mucoperiosteum was torn apart. The primary object in sending for me was to have the palatal fissure closed. This, however, was unnecessary as soon as the bones were pressed together again. I have also been called into consultation in one other similar case in which there was separation of the median palatine suture as a result of an automobile accident. In both these cases there was fracture of other facial bones which appeared to have been occasioned by the forcing apart of the upper maxillae as a result of the tramatism. Each appeared to establish the fact that the force accidentally applied immediately parted this suture, just as occurs in a more moderate way when an appliance is used for the purpose.

4. In one of my patients, a little girl about 8 or 9 years old, the forcible straightening of the nasal septum by the injudicious use of a nasal splint brought it down through the median palatine suture until its lower border could be felt upon the palate surface.

5. Not infrequently there is a marked depression, sufficient at least to indicate the absence of

bone tissue, that may be noted by external examination above the central incisors when they have moved apart in the course of maxillary separation as described, and occasionally in the central portion of the palate the change in the central suture may be recognized by digital examination. Occasionally the line along this division may also be observed in an impression of the mouth taken immediately after the removal of the appliance when for any reason a wide separation of the maxillary bones had been necessary.

6. The patients themselves almost invariably recognize the difference in nasal breathing and this improvement occurs when other evidences indicate that the nose has been widened, and the volume of air correspondingly increased at each inhalation. The degree of the change is naturally governed by the condition of the nasal mucous membrane which may be rapid or slow or variable in its response.

7. Patients also commonly report feeling the effect of pressure high up in the nasal and maxillary regions when the nut is turned tightly after the maxillae have separated.

8. Rhinologist's examinations almost invariably disclose that there has been an immediate enlargement of the breathing space. Practically all such patients in my practice are referred to rhinologist for examination as soon as the incisors are moved apart sufficiently to warrant the belief that there will be a noticeable change within the nose.



Fig. 16.

Fig. 16.—Skiagram of the mouth of a boy twelve years old who was a chronic sufferer from hay fever, headaches, bronchitis and general nervous conditions particularly noticeable in winking of the eyelids. Marked improvement in all of these symptoms followed widening of his upper dental arch in July, 1912. The skiagram of his palate was taken January 11, 1913. The thick black line along the line of the median palatine suture seems to indicate new bone formation in that region. During these six months his growth and height was increased two and three-quarters inches.

9. The X-Ray invariably gives pictures such as Figs. 11, 13, 14, 15, 16.

10. Fig. 17. The radiograph of the central portion of the palate of a man 28 years old, whose upper maxillae were widely separated because of marked intra-nasal deformity and nasal disease associated with pathologic conditions of the nasal accessory sinuses and debilitated general health, (all these symptoms have since almost entirely disappeared,) taken two years after his mouth was expanded, shows a dark line which seems to indicate that bone has been developed along the line



Fig. 17.

Fig. 17.—Skiagram of the palate of a young man twenty-eight years old for whom wide separation of the median palatine suture was performed with great benefit to nasal and general pathologic conditions, taken two years afterward. The thick dark line shows where new bone had formed in the line of the formerly separated median palatine suture, proving that the osteogenetic layer of the palatal periosteum does become active under these conditions and new bone formation results.

of the inter-space between the bones separated through the median maxillary suture, just as one would be led to expect would occur under any other similar conditions.

11. The outward appearance of the nose in many cases is changed by the altered positions of the bones. Sometimes the nasal bones appear to be carried apart so that the broadening of the nose is apparent to the naked eye and the separation can be felt along its anterior surface. In other cases the broadening seems to occur along the line between the sutures of the nasal bones and the nasal processes of the superior maxillary bones. Fig. 12, a radiograph of the nose of a boy of eight years old taken in profile, shows a distinct line of separation between the nasal process of the superior maxillary and nasal bone, and corroborates the conclusion that a change in the relation of these bones

has occurred as indicated by the external appearance of the boy's nose.

BOOK REVIEWS

SURGERY OF THE EYE. A HAND-BOOK FOR STUDENTS AND PRACTITIONERS. By Ervin Torok, M. D., Surgeon to the New York Ophthalmic and Aural Institute; Ophthalmic Surgeon to Beth Isreal Hospital; Consulting Ophthalmologist to the Tarrytown Hospital, and Gerald H. Grout, M. D., Assistant Surgeon to the New York Ophthalmic and Aural Institute; Instructor in the Eye Department, Vanderbilt Clinic. Consulting Ophthalmologist to the Bellevue Hospital, First Division. Octavo, 507 pages, with 509 original illustrations, 101 in colors, and 2 colored plates. Cloth, \$4.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

This book has many pleasing features, among which may be mentioned its wealth of illustrations and its distinct impress of the large personal experience of the authors. The illustrations seem particularly well executed and well calculated to elucidate the text. A notable omission and one that American surgeons will hardly understand is the failure to specifically mention and describe the Smith operation for the extraction of cataract in the capsule. The declared purpose of the authors, however, to include "all operations in common use today and others that in our personal experience have given good results" may and probably does explain this glaring omission. The Smith operation can probably not be said to be in "common use today," and the omission is doubtless evidence of the fact that the authors have had little or no experience in its use. The book will not supplant other more exhaustive works on the subject but will be found valuable to the student of ophthalmic surgery.

GILBERT E. SEAMAN.

ANATOMY: DESCRIPTIVE AND APPLIED. By Henry Gray, F. R. S., Fellow of the Royal College of Surgeons; Lecturer on Anatomy at St. George's Hospital Medical School, London. A New American Edition, thoroughly Revised and Re-edited. With the ordinary Terminology followed by the Basle Anatomical Nomenclature in Latin, by Edward Anthony Spitzka, M. D., director of the Daniel Baugh Institute of Anatomy and Professor of General Anatomy in the Jefferson Medical College, Philadelphia. Illustrated with 1225 engravings. Lea & Febiger, Philadelphia and New York, 1913.

In this new edition of Gray's Anatomy a careful critical consideration has been given to every section and renewed efforts have been made to render every portion clear beyond the possibility of misunderstanding.

In the section on the Nerve System a number of new plates have been added which help to make even more intelligible this splendid description of the most difficult section of human anatomy.

In addition to the ordinary nomenclature the Basle Anatomical Nomenclature is added in parentheses and is included in the index in italics so that anatomical descriptions in foreign languages will no longer present any special difficulties to the student.

Seventeen new plates have been added and a number of the old ones have been replaced by new and improved engravings.

No effort has been spared in bringing the new edition thoroughly up to date and yet, by judicious pruning, it has been possible to avoid increase in size. In fact, the present volume is two pages shorter than the one which preceded it.

It is hard to imagine a work on anatomy which would be more satisfactory to the practitioner or the student of medicine than Gray's Anatomy. It is a beautiful specimen of book-making, of which the publishers have every right to be proud.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences, edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, assisted by Leighton F. Appleman, M. D., Instructor in Therapeutics, Jefferson Medical College, Philadelphia. September 1, 1913. Owners and Publishers, Lea & Febiger, Philadelphia, New York. Six Dollars Per Annum.

CONTENTS OF VOLUME 3: Diseases of the Thorax and its Viscera, including the Heart, Lungs, and Bloodvessels, by William Ewart, M. D., F. R. C. P., Dermatology and Syphilis, by William S. Gottheil, M. D., Obstetrics, by Edward P. Davis, M. D., Diseases of the Nervous System, by William G. Spiller, M. D.

ANATOMY, DESCRIPTIVE AND APPLIED. By Henry Gray, F. R. S., Fellow of the Royal College of Surgeons; Lecturer on Anatomy at St. George's Hospital Medical School, London. New (English) edition, thoroughly revised and re-edited, with the Basle Anatomical Nomenclature in English, by Robert Howden, M. A., M. B., C. M., Professor of Anatomy in the University of Durham, England. Imperial octavo, 1407 pages, with 1126 large and elaborate engravings. Cloth, \$6.00, net; leather, \$7.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

The teaching of Anatomy is in a state of transition at the present time. The Basle Anatomical Nomenclature, which provides a terminology based on scientific foundations, is rapidly coming into general use, and is destined eventually to supplant the old nomenclature which has grown up without consistency or system. The B. N. A. was originally prepared in Latin, in order to provide a uniform basis for translation into each language—hence it is sometimes referred to as the "International Nomenclature." The tremendous advantages of such a plan are obvious. The new English edition of Gray's Anatomy, edited by Professor Howden, embodies these ideals to the fullest extent. The terminology used is the English translation of the B. N. A., and in order to bridge the gap between the old and new systems, a full glossary is appended giving in three parallel columns the Latin B. N. A., the English B. N. A., and the terminology heretofore generally accepted, so that the reader is enabled to master them at a glance. The work is characterized throughout by compactness and simplicity of statement; and in addition to these excellent qual-

ities must be mentioned the exceptional beauty of the engravings and color-work, and the fineness of the press-work generally. Gray is the ideal text-book for the student of medicine or dentistry, and its unapproached teaching qualities have never been stronger or more skillfully promulgated than in this new English edition.

Among the distinctive features of the new English edition as compared with the last American edition are the introductory chapter on Histology; the collection in one excellent chapter of all the material bearing on Embryology, which in the American edition is scattered through the volume; the extremely satisfactory chapter on Surface Anatomy and Surface Markings; and the Glossary of the Basle Anatomical Nomenclature, of which mention has already been made.

THE DISEASES OF CHILDREN. By Henry Enos Tuley, M. D., Late Professor of Obstetrics, University of Louisville, Medical Department; Visiting Physician Masonic Widows' and Orphans' Home, Louisville, Ky.; Secretary of the Mississippi Valley Medical Association; Ex-Secretary and Ex-Chairman of the Section on Diseases of Children, American Medical Association; Ex-President American Association Medical Milk Commissions, Etc. 655 pages with one hundred and six engravings and three colored plates. Second revised edition. C. V. Mosby Co., St. Louis., 1913. Price, \$5.50.

In the preface to the First Edition of this work Dr. Tuley writes: "This book has been written not for the specialist, but with the needs of the general practitioner and student in view, and the diseases of children have been described as they are seen by the busy practitioner in his daily rounds."

With this idea in mind the author has given more than the usual amount of space to the important topic of infant feeding which is handled in a thoroughly practical manner. In addition to this the subject of *clean milk* is taken up with great thoroughness so that the reader of Dr. Tuley's book will understand what good milk is and how it can be produced, as well as how it should be used.

In the remainder of the volume the diseases of children are discussed systematically, but in a compact, practical manner.

HAND-BOOK OF THE MENTAL HYGIENE MOVEMENT AND EXHIBIT. Illustrated. Published by The National Committee for Mental Hygiene, 50 Union Square, New York City, 1913. Price, at Exhibits 15 cents; postpaid 20 cents.

The exhibit, with its direct appeal, has proved its value in other work in popular education and it was for the purpose of popularizing some of the information regarding mental hygiene that this exhibit was prepared. It has been shown in many of the large cities of the United States and has attracted a surprising amount of interest. The "Hand-book of the Mental Hygiene Movement and Exhibit" was prepared in order that some of the facts taught by the exhibit might be collected in easily accessible form and linked with the broader issues of mental hygiene.



CHARLES S. SHELDON, M. D.,
PRESIDENT STATE MEDICAL SOCIETY OF WISCONSIN,
1913-14.

Dr. Charles Stuart Sheldon of Madison, who was elected president of the State Medical Society of Wisconsin at the meeting held in Milwaukee, October 1-3, 1913, was born at New York Mills, Oneida County, N. Y., January 14, 1842. He was graduated from Phillips Academy, Andover, Mass., in 1859, and received his A. B. degree at Yale in 1863, and that of A. M. in 1866. The year following his graduation from Yale he was principal of the 1st Ward Grammar School, Madison, and the next year principal and assistant superintendent of the State Reform School at Waukesha. He then began the study of medicine and was graduated from Buffalo Medical College in 1867 and from the College of Physicians and Surgeons, (Columbia University) New York, in 1868. He practiced at Winona, Minn., and Greenville, Mich., before establishing himself at Madison in 1885.

Dr. Sheldon has served the profession in many different capacities, having been president of the Madison Medical Club in 1887, of the Dane County Medical Society in 1903, and of the American Academy of Medicine in 1910. He has also been a member of the Judicial Council of the A. M. A., and his work as Secretary of the State Medical Society of Wisconsin from 1890 to the present time has embedded him so deeply in the affections of the medical profession of Wisconsin that no meeting seems complete without him.

Dr. Sheldon was married to Emma Louise Hodge of Buffalo, N. Y., Oct. 30, 1868. Their living children are Sidney Roby, born April 11, 1873; Walter Hodge, born Dec. 8, 1874; Stuart Harris, born Aug. 23, 1876; Helen Miriam, born Dec. 3, 1883.

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EDITORIALS

THE ANNUAL MEETING.

The sixty-seventh Annual Meeting of the State Medical Society has come and gone leaving behind it nothing but pleasant memories. But those memories should linger with us for it was a remarkable meeting. In the first place it was the largest meeting we have ever held. 535 members of the Society actually signed their names to the register, and there are usually a goodly number who forget this little formality. This fact alone would seem to justify the wisdom of the plan of changing the time of meeting from Spring to Fall.

The place of meeting was the most satisfactory we have ever found in Milwaukee. It was centrally located, convenient, well arranged, quiet and comfortable.

The spirit of the meeting was splendid. One had only to look around to see that the men and women from various parts of the state who were brought together by this meeting, were really glad to see each other. There was no pretence or humbug about it, it was just the natural expression of good-fellowship and loyalty to a common cause. Everybody was enjoying himself thoroughly and having what T. R. would call a "bully time".

The program was good and not too crowded. There was plenty of time for the discussion of the papers and some of the discussions were very interesting and helpful. We are not yet as strong on discussions as we should be, but we are improving. More attention should be paid to this matter.

If the writers of papers would send copies of their papers to those who are working along similar lines and who are invited to participate in the discussion, it would help.

The special addresses in medicine and surgery were interesting and well received. They will appear in the Journal in the near future.

The business affairs of the Society received careful consideration by the House of Delegates. All reports show that the Society is in a most flourishing condition. The Secretary reports the membership at the present time as being 1722, with the probability of reaching 1750 before the end of the year. This shows a steady, healthy growth from year to year.

The Treasurer's report shows the financial condition to be excellent.

The action of the House of Delegates in raising the Medical Defense assessment from \$1 to \$2 will meet with general approval. The urgent need of this Medical Defense feature is shown by the fact that even with the utmost care, the Committee has been obliged to spend more money each year for the last two or three years, than the \$1 assessment has produced.

The report of the Medical Defense Committee is not published but those who heard it presented to the House of Delegates realize what a splendid work this Committee is carrying forward in behalf of the members of the State Medical Society.

Important steps forward were taken by the formation of the Cancer Research Committee, the Committee to investigate Fee-splitting, and the Committee to establish a fee bill for the guidance

of the Industrial Commission of Wisconsin and the Liability Insurance Companies.

Another step in the right direction was the endorsement of the recommendation of the Committee on Public Policy and Legislation that the State Health Officer be required to devote all of his time to the office and be adequately paid for it. Surely this department has grown to sufficient proportions to require the undivided energies of its head and it will not receive adequate consideration from the Legislature until such an arrangement is effected.

The election of Dr. Sheldon to the presidency of the Society gave the members who were present a welcome opportunity to express their affection and loyalty to our "Peerless Leader". His twenty-five years of faithful and fruitful service as Secretary have earned him a place in the hearts of all members of the Society which will always entitle him to anything he wants at any place or any time. Our sympathy goes out to the man who will be chosen by the Council at its Annual Meeting as his successor in the office of Secretary. No one can fill the place of C. S. S., and trying to do it will be no joke.

The Smoker planned and executed by the Arrangement Committee was certainly a popular feature. There was "Standing Room Only" long before the curtain was raised. Everybody had a good time and nobody cared whether the performers were fat or thin. In justice to Dr. Frew's taste in feminine beauty (Dr. Frew being the Stage Director of the evening's performance,) it ought to be said, however, that he had the usual experience of theatrical managers; one of his star performers disappointed him at the last moment and he had to accept the services of another whom he had never seen. Nothing more needs to be said except that he got a great deal for his money.

All in all it was a great meeting and we shall now look forward to seeing each other again at Oshkosh next year with the pleasantest of anticipations.

A NEW MAILING LIST.

On account of the constant changes in membership which occur in the fifty-three County Medical Societies of which the State Medical Society of Wisconsin is composed, it is not an easy task to keep our list of members in perfect order. A new list is now in process of preparation, using as a basis the official lists of members in the hands of

the Secretary of the State Medical Society. Beginning with the November number of the Journal this new list will be used as our mailing list.

If, by any chance, *you* do not receive your Journal regularly after that time, please make sure, first of all, that your dues are paid and then call the attention of your County Secretary, or of the editor, or of both, to this fact, kindly but firmly!

We are trying to make the list complete but we may need your help in accomplishing this feat.

GLARE FROM PAPER CAUSES EYE-STRAIN.

To emphasize the truth of the statement at the head of this paragraph the Illuminating Engineering Society has published the report of its Committee on Glare from Reflecting Surfaces in the form of a little pamphlet printed in part on glazed and in part on unglazed paper. No argument in behalf of unglazed paper could possibly be more effective.

The subject is of so much importance to all physicians, not merely to those who are interested in eye work or in the medical inspection of school children, that we print the report of this committee in full below.

"Glare in any of its various forms not only diminishes the ability to see clearly, but is a serious cause of eye-strain. Glare from lamps can usually be avoided by placing them high or by properly equipping the lamps with diffusing glassware or reflectors or concealing the lamps as in indirect and semi-indirect lighting. But with all these precautions there usually remains a serious source of eye-strain, viz., glare from polished surfaces in the field of view, such as paper, polished metal, and polished desk tops. Having recognized this evil, the Illuminating Engineering Society has appointed a committee on Glare from Reflecting Surfaces and this committee adopts this method of communicating with you.

"The only effective method of removing this cause of eye-strain is to eliminate glazed or polished surfaces from general use. Glazed paper is the greatest offender in producing eye-strain, although other polished surfaces such as glossy ink, glass and varnished desk tops, blackboards, and glazed walls are bad enough. Several journals have already adopted unglazed paper, having recognized the necessity for catering to the comfort of their readers. Among the 'remediable causes of

eye-strain in the present school conditions' embodied in the report of the Association of Women Principals of New York City glazed paper receives the first consideration, with the recommendation, 'That hereafter no calendered or coated paper be permitted in the text-books given to the children, as the dazzle of such paper is injurious to their eyes.'

"Many publishers have recognized that eye-strain results from the use of calendered paper, but owing to the demand for cheap, durable paper which will reproduce half-tones commercially, it has been deemed necessary in a great many cases heretofore to use glazed paper. *But recent demand for unglazed paper is coincident with improved printing processes and the manufacturing of satisfactory unglazed papers.* Our investigation shows such marked improvement along these lines that it seems to us possible for nearly all publishers to find materials and processes which will suit their requirements and yet rid their publications of the disagreeable and harmful glare, thus making their publications more attractive because of the 'easy reading' on such paper.

"We ask your co-operation in this movement for conservation of vision."

(Signed) NELSON M. BLACK, M. D.
 J. R. CRAVATH,
 E. L. ELLIOT,
 F. H. GILPIN,
 A. JACKSON MARSHALL,
 D. MCFARLAN MOORE,
 F. A. VAUGHN,
 M. LUCKIESH, Chairman.
*Committee on Glare
 from Reflecting Surfaces.*

DEPARTMENT OF AGRICULTURE ADVISES THAT MILK BE PASTEURIZED AT LOW TEMPERATURES.

In order to determine the best way of pasteurizing milk so as to kill the disease germs and yet not give the milk a cooked flavor or lessen its nutritive value, the Department of Agriculture, through its Dairy Division, has been conducting a series of experiments, treating milk at different temperatures and for different lengths of time. According to the report on these experiments in Bulletin 166 of the Bureau of Animal Industry, when milk is pasteurized at 145° F. for thirty

minutes the chemical changes are so slight that it is unlikely that the protein or the phosphates of lime and magnesia are rendered less digestible than they are in raw milk.

Moreover, from a bacteriological standpoint, pasteurizing at low temperatures is found to be more satisfactory than pasteurizing at high temperatures. According to Bulletins 126 and 161, where low temperatures are used the majority of bacteria that survive are lactic acid organisms which play an important part in the normal souring of milk. When milk is efficiently pasteurized at high temperatures, the bacteria which survive are largely of the putrefactive kinds, and milk so treated if kept for any length of time has a tendency to rot instead of sour. From the standpoint of economy, the technologist of the Dairy Division finds that pasteurizing at low temperatures calls for less heat. It is found that it takes about 23½ per cent. less heat to raise milk to the temperature of 145° F. than to a temperature of 165° F. A similar gain is a saving of the ice needed, because it will require 23½ per cent. more refrigeration to cool milk to the shipping point when it is pasteurized at the higher temperature. The Department, therefore, recommends that "When market milk is pasteurized it should be heated to about 145° Fahr. and held at that temperature for 30 minutes."

RESULTS IN A SERIES OF CASES OF TONSILLECTOMY AT THE MASSACHUSETTS GENERAL HOSPITAL, THREE TO FOUR YEARS AFTER OPERATION.*

Postals were sent out in July, 1912, to patients who had been operated on in 1908, and 143 patients responded by presenting themselves to the clinic in person, where they were subjected to an examination and answered a set of questions with reference to the operation and after-effects. From these results the following summary is presented: The patients, with a few exceptions, were under fifteen years of age at the time of the operation. Hemorrhage after tonsillectomy calling for special treatment was of rare occurrence. The condition for which the tonsils were removed was relieved in nearly every case, even in those in which

*Abstract of paper by J. Payson Clark, Boston. Read at the Thirty-fifth Annual Congress of the Amer. Laryngological Assn., May 5, 1913, Washington. D. C.

there was some tonsillar tissue remaining. An improvement of the general health was to be expected after tonsillectomy done for such cause. Children who had had tonsillectomy certainly showed no increased tendency to illness and were probably less susceptible than before the operation. The present health of these children is excellent in the majority of cases. What is apparently tonsil tissue is found much more often than supposed after tonsillectomy. The soft palate was symmetrical and the faucial pillars and tonsil fossæ normal in the great majority of the cases. The accidental cutting off of the uvula in four cases caused no bad symptoms. Most of the cases of sore throat and tonsillitis were relieved by the operation. In many cases in which there appeared to be tonsil tissue remaining, the patients were in perfect health, and in others in which there were symptoms, those were undoubtedly due in many cases to causes other than the tonsil remnants. The ordinary voice or speech may be said to be practically unaffected by tonsillectomy. No investigation was made of the singing voice. In most of the cases in which enlarged cervical glands could be felt, there was tonsil tissue present on the same side. In nearly half the cases in which there was tonsil tissue present, there were no enlarged glands. Carious teeth were apparently a direct cause of some cases of cervical adenitis.

CORRESPONDENCE.

MILWAUKEE, Wis., Oct. 17, 1913.

To the Editor:

Notwithstanding that the taking of surgical patents to the highest bidder has been discouraged if not altogether eliminated by recent legislation as well as by the firm stand taken by numerous medical organizations, still it would perhaps be a little premature to rejoice in the delusion that the surgical millennium has now arrived. The question as to who shall be allowed to do major surgical operations may, in the course of time, be considered a proper subject for legislation, but such legislation would be impracticable at the present time. Meanwhile we must not lose sight of the fact that there are many abuses and undesirable conditions in our profession not readily amenable to legislative correction. One of them is well illustrated by the following amusing experience of my own:

One morning last week a young woman with a large simple goitre came into my office and presented a letter from her home physician recommending that I do a thyroidectomy. She was accompanied by her aunt who acted as spokesman. In the course of our conversation the aunt explained that her niece had but \$150, which must cover the cost of both operation and hospital. After it had been agreed that I should be paid \$100 for the operation, I took the patient to the hospital of her choice and ordered 48 hours' preparation for operation.

The following afternoon the aunt came to my office and asked "What kind of operator is Dr. X?" (mentioning the name of a surgeon for whose ability I have the greatest respect). I replied truthfully "He is one of our best surgeons, and has probably a larger practice than any other surgeon in the city." She then went on to say, "Some of our friends have taken up the matter with Dr. X and after learning the girl's circumstances he has offered to do the operation for \$25." At this juncture the ludicrous aspect of the affair saved me from feeling disgruntled at the loss of the operation. Here was an able-bodied young woman with no one dependent upon her, sent to me by her physician, and having, according to her own admission, \$150 which she was free to spend to have her goitre removed. Moreover, she had been in the hospital under my care for 36 hours and was already prepared for operation.

My comments to the aunt were as follows: "Since Dr. X agrees to do the operation for \$25, then by all means have him do it and thus save \$75. I do charity operations every week and am always willing to do them when the occasion demands it, but I am neither doing a peanut business nor do I care to be tipped like a waiter by taking \$25 for this goitre operation. My best advice is that you call up Dr. X at once and complete your arrangements." This she proceeded to do—then and there—making use of my telephone which I offered her for that purpose.

Two hours later the patient, already prepared for operation, was removed to the hospital where Dr. X operates.

This little episode is not described in a spirit of animosity toward anyone, but merely to point out that there are certain abuses in surgical practice which cannot be corrected by legislation, by Colleges of Surgeons, or any other external influence yet devised.

Somehow it reminds me of attempts made of late in Europe to limit the number of medical matriculants by disillusioning prospective students of their grandiose notions of the emoluments of medical practice. Some of our continental brethren have been systematically carrying out such a campaign of disillusionment with some show of success. Why should we lag behind in this form of progressiveness? Why not organize one more society, and call it "An Organization for the Dissuasion of Young Men from Entering the Medical Profession"? Such a society might serve a commendable purpose, and nearly every city could furnish one or two surgeons like Dr. X who would make ideal charter members!

Respectfully yours;

CHESTER M. ECHOLS.

NEWS ITEMS AND PERSONALS

DR. F. W. HAMMOND of Wyocena has resigned as physician at the County Institution. It is reported that Dr. Hammond will remove from Wyocena to a new location.

DR. H. J. STALKER of Kenosha was severely bruised in an automobile collision on September 17th.

DR. A. M. FOSTER, JR., of Hilbert has again associated himself in the practice of medicine with his father Dr. A. M. Foster, Sr., at Kaukauna.

The jury in the Fairchild-Hilton case, in which Mrs. Emma R. Fairchild was suing Dr. G. F. Hilton of Sturgeon Bay in the sum of \$10,000 damages for malpractice, returned a verdict in favor of Dr. Hilton.

Drs. Otto Krueger and H. E. Bradley, Milwaukee were made defendants in a suit instituted in the circuit court by John Dickert, who alleges that false testimony was responsible for his detention in the Milwaukee Hospital for Insane, and asks damages in the sum of \$15,000.

DR. JOHN N. ROCK, Milwaukee, is ill at his home, the result of an automobile accident. A short time ago, while cranking his automobile, the engine back-fired and he sustained a fracture of the right arm, two weeks later an infection set in and his condition is considered serious.

DR. W. F. WHYTE of Watertown, president of the State Board of Health, has disposed of his

practice in Watertown, and intends shortly taking a trip to Europe and Egypt. Upon his return he intends locating in Milwaukee.

DR. ORRIN W. JOSLIN of Linden has been appointed local physician and surgeon for the Mineral Point and Northern Railroad.

DR. E. H. ROBB of Sturgeon Bay, suffered a fracture of the right wrist on Oct. 2, while cranking his automobile.

DR. C. W. GIESEN of Superior, left the early part of October for Europe. He will study in Vienna and other European cities for about one year.

DR. A. M. FARRELL of Two Rivers underwent an operation for appendicitis on September 11th.

DR. L. P. HINN of Fond du Lac, is seriously ill, the result of a nervous breakdown caused by overwork.

The State Board of Health in session at Madison on September 25th, appointed five deputy health officers, provided for in the new law dividing the state into health districts. The physicians named are: L. E. Spencer, Wausau; Jacob Furstman, La Crosse; G. W. Henika, Beaver Dam; Geo. E. Hoyt, Menominee Falls, and William C. Bennett, Oregon.

DR. EUGENE E. AXTELL of Marinette is taking post-graduate work in the New York Post-Graduate Medical School and Bellevue Hospital in X-ray diagnostics.

The new Mercy Hospital at Janesville was opened on Oct. 2.

The Milwaukee Maternity Hospital's long campaign for adequate quarters was rewarded on September 26th, when the Board of Directors accepted an offer made by William Woods Plankinton, and will take over the old John Plankinton Home at 16th Street and Grand Avenue for the hospital. The building is given to the hospital association for an indeterminate term of years, rent free. The work of altering the old residence will begin immediately, and it will probably be occupied by Nov. 1. The old Maternity Hospital on Fourth Street will be used for the hospital dispensary.

REMOVALS

Dr. F. G. Richardson of Burlington has located at Walworth.

Dr. F. T. Manning of Lomira has removed to Bergess, Ill.

Dr. P. G. McCabe, Fond du Lac, has located at Dotyville.

Dr. W. H. Oatway, Lake Mills, has removed to Waukesha.

Dr. W. L. Boyden, Seymour, has removed to Oconto.

MARRIAGES

Dr. Rex Capwell, Racine and Miss Monica Meyer, Brillion, September 2nd.

Dr. Adolph E. DeTuncq, Scandinavia and Miss Marvel Drewry, Milwaukee, September 24th.

Dr. Geo. W. Newell, Burlington and Miss Corona Christien, Burlington, Oct. 4th.

Dr. Clarence G. Kenney and Miss Eunice Thomson, both of Milwaukee, Oct. 9th.

DEATHS

Dr. Julius Schauer, at one time a resident of Hartford and Milwaukee, died on August 26th. at Chula Vista, California, aged 48 years.

THE AMERICAN COLLEGE OF SURGEONS.

THE FIRST CONVOCATION FOR THE CONFERRING OF FELLOWSHIPS TO BE HELD IN CHICAGO,

NOVEMBER 13, 1913.

On the evening of November 13, 1913, will be held the first formal meeting for the conferring of fellowships on the members of the American College of Surgeons.

Sir Rickman Godlee, the President of the Royal College of Surgeons of England, will deliver the principal address and extend, officially, greetings to our new organization for the Councillors of the Royal College of Surgeons.

President J. M. T. Finney will deliver the presidential charge, and formally confer the fellowships on all members of the organization who have qualified. Honorary fellowships will be conferred on a small number of foreigners and Americans whom the Board of Regents have selected as worthy of such distinction.

Every qualified member of the organization should make an effort to be present at this convocation, as the Board of Regents is anxious to make the occasion one of impressiveness and

dignity in keeping with the far-reaching importance of the organization.

About thirteen hundred applications for fellowship in the American College of Surgeons have been filed with the secretary. Of this number of applicants only about ten hundred have fulfilled all the requirements in filing their application blanks.

The Board of Regents approved about four hundred men at its Minneapolis meeting. Three hundred additional have been favorably passed upon by the General Committee on Credentials and will be recommended to the Regents for final approval at their next meeting in October.

Too many of the applicants have been careless about filing their preliminary papers. This causes delay in consideration of the prospective fellows' availability by the Committee on Credentials and hence surgeons are urged to complete and file all declarations and other papers as early as possible.

There is an inclination on the part of some men to take it for granted that certain groups of members should be exempt from filing declaration blanks and giving data and references. The Regents have ruled that all applicants shall file the same papers and be submitted to the same scrutiny before they can be recommended for fellowship.

The work of scrutinizing each application and verifying all references on the part of the Committee on Credentials takes much time, hence, prospective fellows must not become impatient if the announcement of their acceptance is delayed.

THE CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA.

FOURTH ANNUAL SESSION, CHICAGO, NOVEMBER, 10 TO 15, 1913.

PROGRAM OF EVENING SESSIONS.

GENERAL SURGICAL DIVISION.

Presidential Meeting, Monday, November 10th, in Orchestra Hall.

EDWARD MARTIN, Philadelphia: Address of retiring president.

Inauguration of President Brewer.

Brief Addresses by President of the National Medical Societies.

GEORGE EMERSON BREWER, New York City: A New Method of Pyloric Closure in Gastro-enterostomy.

HARVEY CUSHING, Boston: A Report of a Series of 150 Gasserian Ganglion Operations.

Discussion by JOHN B. MURPHY, Chicago.

Tuesday, November 11th, in Orchestra Hall.

SIR W. ARBUTHNOT LANE, London: Title of paper to be announced.

HERBERT J. PATERSON, F. R. C. S., London: The Operation of Gastro-jejunosomy and the Principles Which Should Determine Its Use.

Discussion by CARL BECK, Chicago.

JOHN B. DEEVER, Philadelphia: Gastric Hemorrhage.

Discussion by A. J. OCHSNER, Chicago.

Wednesday, November 12th, in the Gold Room, Congress Hotel.

PROFESSOR DOCTOR KRÖNIG, Freiburg, Germany: The Radio-Therapeutic Treatment of Benign and Malignant Tumors.

Discussion by HOWARD KELLY, Baltimore, and C. J. GAUSS, Freiburg, Germany.

ROSWELL PARK, Buffalo: On the Relation of the Ductless Glands to the Work of the Surgeon.

Discussion by DEAN D. LEWIS, Chicago.

JOHN F. BINNIE, Kansas City: Some Uses of Fat in Surgery.

Discussion by JASPER HALPENNY, Winnipeg, Manitoba.

Cancer Meeting, Thursday, November 13th, in Orchestra Hall.

THOMAS S. CULLEN, Baltimore: (a) Report of the Cancer Campaign Committee of the Clinical Congress of Surgeons of North America. (b) The Diagnosis of Cancer of the Uterus.

MR. SAMUEL HOPKINS ADAMS, New York City: Publicity Through the Lay Press.

EDWARD REYNOLDS, Boston: Publicity and Education Through the American Society for the Control of Cancer.

FREDERICK R. GREEN, Chicago: Publicity and Education Through the Council on Health and Public Instruction of the American Medical Association.

MR. FREDERICK L. HOFFMAN, Newark: The Educational Value of Cancer Statistics to Insurance Companies, the Public, and the Medical Profession.

JAMES EWING, New York City: The Relation of the Pathological to the Surgical Diagnosis in Cases of Cancer.

WILLIAM J. MAYO, Rochester, Minnesota: Cancer of the Stomach and Colon.

C. J. GAUSS, Freiburg, Germany: The Radio-Therapeutic Treatment of Carcinoma.

JOSEPH C. BLOODGOOD, Baltimore: A Very Recent Investigation of the Outcome of the Cases of Cancer Recorded in the Johns Hopkins Hospital and the Surgical Pathological Laboratory. (Lantern Demonstration.)

Friday, November 14th, in the Gold Room, in Congress Hotel.

HUGH CABOT, Boston: The Diagnosis of Lesions of the Upper Urinary Tract.

Discussion by ARTHUR DEAN BEVAN, Chicago.

J. M. T. FINNEY, Baltimore: Fourteen Years' Experience with the Operation of Pyloroplasty.

Discussion by E. WYLLYS ANDREWS, Chicago.

CHARLES H. MAYO, Rochester, Minnesota: A Summing Up of the Goiter Question.

Discussion by GEORGE W. CRILE, Cleveland.

PROGRAM OF EVENING SESSIONS.

DIVISION OF SURGICAL SPECIALTIES.

Tuesday, November 11th, in the Louis XVI Room, Hotel Sherman.

EDWARD JACKSON, Denver: Operations on the Extra-ocular Muscles.

Discussion by C. H. BEARD and GEORGE F. FISKE.

HAROLD GIFFORD, Omaha: Sympathetic Ophthalmia.

Discussion by E. V. L. BROWN and J. B. LORING.

ROBERT H. ELLIOTT, M. D., F. R. C. S., Lt.-Col. I. M. S., Superintendent Government Ophthalmic Hospital, Madras, India, will also address the meeting.

Wednesday, November 12th, in the Louis XVI Room, Hotel Sherman.

G. HUDSON-MAKUEN, Philadelphia: Surgery of the Fau- cial Tonsil as it Relates to the Functions of the Tongue and Soft Palate in the Production of the Voice.

Discussion by W. E. CASSELBERRY and ELMER KENYON.

V. P. BLAIR, St. Louis: Peridental Infections: Their Relation to Neighboring Organs.

Discussion by ARTHUR D. BLACK and HERBERT A. POTTS.

Friday, November 14th, in the Louis XVI Room, Hotel Sherman.

FRED WHITING, New York City: The Indications for the Radical Mastoid Operation with the Steps Essential to Successful Healing.

Discussion by FRANK ALLPORT and JOSEPH BECK.

PHILIP D. KERRISON New York City: The Surgical Treatment of Suppurative Labyrinthitis.

Discussion by GEORGE E. SHAMBAUGH and J. GORDON WILSON.

DAILY BULLETINS AND PROGRAMS.

During the afternoon of each day of the session there will be bulletined at headquarters a complete, accurate program of the clinics and demonstrations to be given on the succeeding day. These bulletins will be displayed on large boards in the Ballroom at the Hotel LaSalle and in the Louis XVI Room of the Hotel Sherman. Printed programs will be issued daily announcing all clinics, demonstrations, evening sessions, business meetings, etc. The complete program for Monday will be posted on Saturday afternoon.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

Officers 1913-1914

CHARLES S. SHELDON, Madison President
 C. A. EVANS, Milwaukee 1st Vice President
 C. J. COMBS, Oshkosh 2nd Vice President
 E. H. KINNE, Elkhorn, 3rd Vice President
 CHAS. S. SHELDON, Madison, Secretary S. S. HALL, Ripon, Treasurer ROCK SLEYSTER, Waupun, Assistant Secretary

Councilors

TERM EXPIRES 1917 1st Dist., M. R. Wilkinson - Oconomowoc 2nd Dist., G. Windesheim - Kenosha
 TERM EXPIRES 1918 3rd Dist., F. T. Nye - Beloit 4th Dist., W. Cunningham - Platteville
 TERM EXPIRES 1919 5th Dist., W. F. Zierath - Sheboygan 6th Dist., H. W. Abraham, - Appleton
 TERM EXPIRES 1915 9th Dist., T. H. Hay - Stevens Point 10th Dist., R. U. Cairns - River Falls
 TERM EXPIRES 1916 7th Dist., Edward Evans, - La Crosse 8th Dist., T. J. Redelings, - Marinette 11th Dist., J. M. Dodd - Ashland 12th Dist., H. E. Dearholt - Milwaukee

Delegates to American Medical Association

L. ROCK SLEYSTER, Waupun J. J. McGOVERN, Milwaukee J. M. DODD, Ashland

Alternates

W. T. MURPHY, Waukesha F. T. NYE, Beloit J. F. PEMBER, Janesville

Committee on Public Policy and Legislation

J. P. McMAHON, Milwaukee, Chairman A. G. SULLIVAN, Madison F. F. BOWMAN, Madison

Committee on Medical Defense

G. E. SEAMAN, Milwaukee, Chairman S. S. HALL, Ripon A. J. PATEK, Milwaukee

Committee on Prevention of Tuberculosis

M. P. RAVENEL, Madison G. E. SEAMAN, Milwaukee C. A. HARPER, Madison
 J. M. BEFFEL, Milwaukee T. H. HAY, Stevens Point

Program Committee

W. F. ZIERATH, Sheboygan L. M. WARFIELD, Milwaukee, Chairman C. S. SHELDON, Madison

Committee on Arrangements

C. A. EVANS, Milwaukee, Chairman

NEXT ANNUAL SESSION, OSHKOSH, 1914

The Wisconsin Medical Journal, Official Publication.

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	W. T. Rinehart, Ashland	C. J. Smiles, Ashland.
Barron-Polk-Washburn-Sawyer-Burnett	W. L. M. Knowles, Spooner	B. N. Webster, Rice Lake.
Brown-Kewaunee	Julius J. Bellin, Green Bay	I. E. Levitas, Green Bay.
Calumet	E. L. Bolton, Chilton	F. P. Knauf, Kiel.
Chippewa	C. A. Hayes, Chippewa Falls	A. L. Beier, Chippewa Falls.
Clark	H. H. Christofferson, Colby	E. L. Bradbury, Neillsville.
Columbia	B. F. Bellack, Columbus	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills	A. J. McDowell, Soldiers Grove.
Dane	C. A. Harper, Madison	F. S. Meade, Madison.
Dodge	H. B. Sears, Beaver Dam	E. S. Elliott, Fox Lake.
Door		N. Z. Wagener, Sturgeon Bay.
Douglas	R. K. Lohmiller, Superior	W. H. Zwickey, Superior.
Dunn-Pepin	E. H. Grannis, Menomonie	L. A. Dahl, Menomonie.
Eau Claire	A. L. Payne, Eau Claire	E. E. Tupper, Eau Claire.
Fond du Lac	L. A. Bishop, Fond du Lac	F. A. Read, Fond du Lac.
Grant	J. C. Betz, Boscobel	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe	S. R. Moyer, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	J. F. Riordan, Berlin.
Iowa	J. P. Parmley, Mineral Point	H. D. Ludden, Mineral Point.
Jefferson	W. T. Clark, Ft. Atkinson	C. R. Feld, Watertown.
Juneau	T. S. Lawler, Lyndon Station	A. T. Gregory, Elroy.
Kenosha	William Pugh, Kenosha	C. H. Gephart, Kenosha.
La Crosse	Oscar Houck, La Crosse	G. W. Lueck, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	Susanne Orton, Darlington.
Langlade	G. W. Moore, Antigo	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill	Herbert Saylor, Merrill.
Manitowoc	Max Staehle, Manitowoc	A. J. Shimek, Manitowoc.
Marathon	F. C. Nichols, Wausau	J. R. Bryant, Wausau.
Marquette-Florence	H. F. Schroeder, Marinette	M. D. Bird, Marinette.
Milwaukee-Ozaukee	C. H. Lemon, Milwaukee	Daniel Hopkinson, Milwaukee.
Monroe	A. E. Winter, Tomah	A. R. Bell, Tomah.
Oconto	J. B. Atwood, Oconto	R. C. Faulds, Abrams.
Oneida-Forest-Vilas	J. T. Elliott, Rhinelander	C. A. Ricbards, Rhinelander.
Outagamie	C. G. Maes, Kimberly	F. P. Doeharty, Appleton.
Pierce	A. E. Geudron, River Falls	S. F. Rudolf, Ellsworth.
Portage	A. E. MacMillan, Stevens Point	W. F. Cowan, Stevens Point.
Price-Taylor	C. E. Fenelon, Phillips	G. H. McClure, Westboro.
Racine	J. S. Keech, Racine	Susan Jones, Racine.
Richland	R. H. De Lap, Richland Center	G. R. Mitchell, Richland Center.
Rock	Frank W. Van Kirk, Janesville	F. E. Sutherland, Janesville.
Rusk	G. M. Carnahan, Bruce	W. F. O'Connor, Ladysmith.
Sauk	F. D. Hulburt, Reedsburg	Roger Cahoon, Baraboo.
Shawano	J. F. Ragan, Gresham	C. E. Stubenvoll, Shawano.
Sheboygan	J. R. Kingsley, Sheboygan	W. F. Zierath, Sheboygan.
St. Croix	E. A. Campbell, Clear Lake	W. H. Banks, Hudson.
Trempealeau-Jackson-Buffalo	B. P. Rosenbery, Arcadia	G. H. Lawrence, Galesville.
Vernon	John Schee, Westby	F. E. Morley, Viroqua.
Walworth	H. C. Miller, Whitewater	M. V. Dewire, Sharon.
Washington	W. J. Wehle, West Bend	S. J. Driessel, Barton.
Waukesha	Margaret Caldwell, Waukesha	S. B. Ackley, Waukesha.
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London.
Winnebago	L. P. Allen, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	J. A. Jackson, Rudolph	J. B. Vedder, Marshfield.

SOCIETY PROCEEDINGS

SIXTY-SEVENTH ANNUAL MEETING OF THE STATE MEDICAL SOCIETY OF WISCONSIN, OCT. 1-3, 1913.

DIGEST OF MINUTES OF THE HOUSE OF DELEGATES.

Minutes of Meeting of House of Delegates, Tuesday, September 30, 1913, 7:30 P. M.

Meeting called to order by the President, Dr. A. J. Patek.

Roll-call of delegates showed an attendance of 34.

The report of the Committee on Medical Defense was read by the chairman, Dr. G. E. Seaman, and after considerable discussion a motion was duly made, seconded and carried that the dues for Medical Defense be raised to \$2.00, and leaving the status of medical defense exactly as it is at present, and in the year to come the committee is to attempt to formulate some sort of recommendation which it will submit to the House of Delegates next year.

The report of the Committee on Public Policy and Legislation was presented by Dr. J. P. Mc Mahon, Chairman.

The report was on motion duly seconded and carried, accepted and ordered published and a rising vote of thanks extended to Dr. McMahan for his services in behalf of the Society.

The report of the Committee on Publication was read by Dr. J. P. McMahan, and on motion duly seconded and carried was accepted, placed on file and referred to the Council.

The reports of the Committees on Prevention of Tuberculosis and Medical Education were deferred.

The report of the Committee on Necrology was presented by Dr. C. H. Stoddard, and on motion was adopted.

The report of the delegates to the National Legislative Council was presented by Dr. H. E. Dearholt, and on motion was accepted and ordered published.

The report of delegates to the annual meeting A. M. A. was presented by Dr. J. J. McGovern, and on motion was received and placed on file and referred to the publication committee. Resolutions to be presented later by Dr. McGovern.

Report of Councilors were then presented to the House of Delegates and on motion they were adopted.

The report of Treasurer was presented by Dr. S. S. Hall, and on motion was received and referred to Auditing Committee.

Adjourned to 9 A. M., October 1st, 1913.

Minutes of Meeting of House of Delegates October 1st, 1913, 9 A. M.

Meeting called to order by the President.

Roll-call by the Secretary.

The minutes of the last meeting of the House of Delegates were read and approved.

The report of the Committee on Prevention of Tuberculosis was read by Dr. Sheldon, and on motion was received and referred to the committee on publication.

The report of the Secretary was presented by Dr. Sheldon and on motion was accepted and referred to Publication Committee.

The report of Councilor from the Second District was presented by Dr. Windesheim and was accepted and placed on file.

Dr. Dodd and Dr. Pember were by ballot duly taken, elected respectively delegate and alternate to the A. M. A.

Dr. Zeirath was elected councilor for the Fifth District.

Dr. Abraham was elected Councilor from the Sixth District.

Dr. Hay was elected Councilor for the Ninth District.

The election of committees and delegates was referred to the Committee on Nominations.

The following Committee on Nominations was duly appointed: 1, Dr. Sears; 2, Dr. Windesheim; 3, Dr. Nye; 4, Dr. Glasier; 5, Dr. Cairns; 6, Dr. Dougherty; 7, Dr. Sarles; 8, Dr. Cantwell; 9, Dr. Smith; 10, Dr. White; 11, Dr. Wright; 12, Dr. Washburn.

On motion the House of Delegates adjourned to meet at 8 A. M., Oct. 2, at the Elk's Club House.

Minutes of the House of Delegates, Oct. 2nd, 1913, at 8 A. M.

Roll called by the secretary.

Communication from the Jefferson County Society read by the secretary. Dr. Evans moved that it be referred to the Committee on Public Policy and Legislation.

The secretary read a resolution from the American Association for Cancer Research. The president announced that there would be a communication sent to the House, if it has not already been sent from the general meeting of yesterday, with reference to the appointment of a Cancer Commission. The Secretary moved that the communication be referred to that committee.

Dr. McMahan moved that the retiring president

be empowered to appoint a committee of 5, to undertake the work of the two subjects enumerated in the two separate resolutions passed the afternoon before, 5 on each committee. Motion seconded by Dr. Hay, and carried; one committee to study the subject of cancer, and the other committee the subject of fee-splitting, and report next year.

Dr. McMahon moved that a committee of 3 be appointed, 2 of whom are to be the president and secretary to select the nominees for the State Board of Medical Examiners. The amendment was seconded by Dr. Abraham and carried, the motion being that a committee of 3 of which the president and secretary be members, be appointed to select ten names for presentation to the Governor.

Moved and carried that the recommendation of the council to the House of Delegates detaching Ozaukee County from the 12th district and adding it to Sheboygan, carried.

The secretary moved that Dr. Abraham, the councilor of the 6th district be authorized to go into that district and organize a medical society. Motion seconded by Dr. Hay, and carried.

Dr. Abraham thereupon presented the claim of the city of Oshkosh for the next meeting of the Society.

Dr. McMahon presented the claim for the city of Janesville for the next meeting, in behalf of Dr. Nye.

On motion of Dr. Cantwell, duly seconded and carried, it was decided to hold the next meeting at Oshkosh.

Minutes of last meeting read.

Dr. Jermain offered the following resolution:

"Whereas the council on medical education and medical educators in the United States are agreed that the most desirable preliminary requirement to a medical education is two years of college work, including the physics, chemistry, biology and a foreign language, this college course to proceed upon the graduation from an accredited High School course, and whereas, many states, including our neighboring states of Minnesota, North and South Dakota and Iowa have already, by law or ruling of the state board of examiners adopted such preliminary requirements, therefore, be it resolved by the House of Delegates representing the Medical Society of the state of Wisconsin, that steps be immediately taken, either by enactment of the proper law, or by ruling of the board of examiners,

if such be within their powers, to adopt the above preliminary requirements in this state."

Dr. Jermain moved the adoption of this resolution.

The resolution was seconded by the secretary, including the proviso that it be submitted to the Committee on Medical Education.

Resolution adopted.

The president read two amendments relating to the powers and duties of the Committee on Medical Defense.

Dr. Abraham moved the adoption of these two amendments.

Motion seconded and carried.

Dr. Riordan moved that the 15th of April be set as the latest day at which the dues of members be paid.

Dr. Sarles moved to amend to the effect that a member be not considered delinquent until 30 days have elapsed after Jan. 1st, the time payable for dues, which would make the date the 1st of February.

Original motion as amended, carried.

Dr. McMahon moved the appointment of a committee of three to take up the subject of establishing a fee bill for the members of the State Society, and act upon it, and report.

Motion duly seconded and carried.

Motion made by Dr. White of Rice Lake, as follows:

"Resolved, that the State Society through the House of Delegates, hereby endorses the recommendation of the committee on Public Policy and Legislation providing that the State Health Officer be required to devote all of his time to the office and that an adequate salary be paid for the office."

The next business was the election of officers.

Dr. C. S. Sheldon of Madison, was elected president; Dr. C. A. Evans, 1st Vice-President; Dr. C. J. Combs, 2nd Vice-President, Dr. E. H. Kinne, 3rd Vice-President; Drs. J. P. McMahon, A. G. Sullivan and F. F. Bowman, Committee on Public Policy and Legislation; Drs. M. P. Ravenel, C. A. Harper, Gilbert E. Seaman, H. E. Dearholt and Thomas Hay, Committee on Prevention of Tuberculosis; Drs. Edward Evans, E. S. Hays and W. H. Washburn, Committee on Medical Education; Drs. A. W. Myers, J. C. Reynolds, Lake Geneva, E. L. Boothby, Hammond, Committee on Necrology. Delegate to the National Legislative Council, American Medical Association, Dr. H. B. Hitz, Milwaukee.

Delegate to Council on Medical Education, American Medical Association, Dr. A. J. Patek, Milwaukee.

Adjournment to 8:30 A. M. next day.

Session October 3rd, 1913, 8:30 A. M.

Roll-call by the Secretary.

Dr. H. E. Dearholt withdrew from the committee on tuberculosis, stating that he could work with the committee without being a member thereof and thereby another man could be secured to help in the work, and on motion duly carried the name of Dr. J. M. Beffel was substituted on that committee in place of Dr. Dearholt.

The following resolution was presented by Dr. J. P. McMahon:

Resolved that the retiring president appoint a committee of three to establish a fee bill for the guidance of the Industrial commission of Wisconsin and the Liability Insurance Companies in the settlement of accident claims.

The matter was discussed at considerable length.

Motion made that the chair appoint a committee of three to get up a fee bill, and that that committee be given power for final action without further report to the house.

On motion the action with reference to the matter taken on the previous day was rescinded.

After further discussion a motion was made that a committee be appointed with power to act either through the county secretaries or whatever way seemed fit to the committee, with power to report the fee bill to the Industrial Commission.

The motion carried.

On motion duly seconded and carried the committee appointed to suggest the names of 10 men from whom to select a member of the State Board of Medical Examiners was empowered to report to the Council and Executive Officers of the Society at a later date.

The report of the Councilor from the fifth district was presented, showing the district in good condition.

A motion was made, seconded and carried detaching Fond du Lac County from the 5th district and adding it to the 6th district.

The following were appointed by the Chair a committee on the Industrial Fee Bill Matter: Dr. Smith of Wausau, Dr. Jermain of Milwaukee, Dr. Morgenroth of Oshkosh.

The following were appointed by the Chair on the Cancer Committee: Dr. Bunting, Madison; Dr. Warfield, Milwaukee; Dr. Edward Evans, La

Crosse; Dr. Yates, Milwaukee; Dr. Philip F. Rogers, Milwaukee.

The following were appointed by the Chair on the Split Fee Committee: Dr. Reginald Jackson, Madison; Dr. D. Hopkinson, Milwaukee; Dr. Ford, Milwaukee; Dr. Adams, Kenosha; Dr. Nott, Racine.

On motion the House of Delegates adjourned sine die.

DIGEST OF THE PROCEEDINGS OF THE GENERAL SESSION OF THE SIXTY-SEVENTH ANNUAL MEETING OF THE STATE MEDICAL SOCIETY OF WISCONSIN.

Morning session, Oct. 1st, 1913, 11:30 A. M.

Meeting called to order by the President, Dr. A. J. Patek, Milwaukee.

Invocation by the Rev. Paul B. Jenkins, Milwaukee.

The report of the Committee on Arrangements was presented by Dr. C. A. Evans, Milwaukee, announcing arrangements for the entertainment of the delegates during their stay in Milwaukee.

Mayor Gerhard A. Bading, of Milwaukee, welcomed the Society to the city of Milwaukee. He expressed the belief that public office and public service offers a field to the medical man in which he can accomplish much, and that the sacrifice of giving up the profession for a length of time in order to hold public office will be repaid amply in the work actually accomplished. He detailed the work accomplished by the present administration in solving the problem of the water supply in the city of Milwaukee and disposition of sewage along scientific lines, and extended a hearty welcome to the Society on behalf of the city of Milwaukee.

The response to the address of Mayor Bading was made by Dr. C. A. Armstrong, Prairie du Chien.

Dr. Armstrong stated that he felt that the Society should come to the metropolis of the state as often as possible, and that the Society always returned to Milwaukee after meeting in other parts of the state, with the feeling that the child returns to the home of the parent.

He thanked Mayor Bading for his hearty welcome to the city of Milwaukee.

The report of the Program Committee was presented by Dr. L. M. Warfield, of Milwaukee, who stated that the Program Committee had en-

deavored to present as good a program as could possibly be gotten together, and that the committee looked for a lively and active discussion of the papers presented.

The Annual Address of the President, Arthur J. Patek, Milwaukee, is published in this issue of the Journal.

Dr. W. F. Lorenz, of the Wisconsin State Hospital for Insane, at Medota, Wis., read a paper on Intraspinous Medication in Paresis and Tabes, giving the results of a series of experiments in treating syphilis of the nervous system by direct medication into the spinal canal; reporting a series of cases treated according to the method of Swift and Ellis, that is, injection into the spinal canal of blood serum taken from a patient who previously received an intravenous injection of neosalvarsan, and the effect of such direct medication on the pleocytosis; the chemical reactions including Lange's colloidal gold test and the Wassermann reaction of the spinal fluid were also discussed.

Dr. Lorenz's conclusions from these experiments were:

1st. That intraspinal medication is a simple procedure.

2nd. That the Swift-Ellis method of using blood serum has been irritating, and caused alarming symptoms.

3rd. The direct injection of a dilute solution of neosalvarsan in doses of 0.0006 gms. in the male, and 0.0003 gms. in the female caused no untoward symptoms.

4th. The direct use of neosalvarsan has apparently as much effect as the Swift-Ellis blood serum.

5th. Intraspinous medication is a valuable adjunct in the treatment of early paresis.

6th. The gold sol test gave a characteristic reaction in every case of central nervous syphilis.

7th. The anti-syphilitic measures employed affected the gold sol test, making the same less positive, and paralleling the reduction in lymphocytes and globulin.

Dr. L. M. Warfield, of Milwaukee, opening the discussion, stated that in a series of experiments at the Milwaukee County Hospital they had not been using the Swift-Ellis method, thinking it would be more advisable to put the salvarsan directly into the spinal canal in dilute solution; experiments were made to find the correct dosage, in which the salvarsan proved a tremendous irritant to the spinal meninges, and that they have

been injecting 4/10000 of the milligram in 10 c.c. of fluid, and the cases have shown a marked improvement. Dr. Warfield considered that the most valuable features of the examination of the spinal fluid are: first, the cell count; second, the globulin content.

Dr. W. F. Becker, in discussion stated that the treatment by salvarsan did not yield as good results in the parasyphilitic cases, tabes and paresis, as it does in direct cerebral syphilis, but that the returns were coming in very fast, and everything seemed favorable to the establishment of satisfactory method of treatment.

Dr. Lorenz stated, in answer to Dr. Becker's question, that he injected the fluid at a temperature of about 70, making no particular effort to heat it. Dr. Lorenz stated in his opinion that gold sol test would supplant the Wassermann in so far as the spinal fluid is concerned, being equally delicate, and will probably be at the disposal of the general practitioner; that the early recognition of syphilis of the nervous system is the essential fact.

In the paper on Anesthesia by Dr. W. E. Bannen, of La Crosse, the writer gave as his conclusions that anesthesia as generally administered, has not been accorded sufficient care, and is often grossly abused by incompetent anesthetists; that gas, oxygen and novocaine anesthesia in the hands of experienced and competent anesthetists, and with a skilled operator, is a safe and satisfactory anesthetic for most cases of major operations; that the successful use of nitrous oxide, oxygen and novocaine requires, on the part of the surgeon, greater skill in operating and more careful manipulation of the tissues, and definite knowledge of the nerve supply to regions to be blocked with the novocaine, and co-operation between the anesthetist and operator. That preliminary use of small doses of morphine are of more benefit than harm; that much lighter ether anesthesia than is usually given is sufficient for most surgical procedures.

Dr. J. L. Yates gave the results of experiments upon rabbits with morphine, morphine and hyoscine, nitrous oxide and oxygen, ether, chloroform, and cobra venom. The observations forced the conclusion that there was no such thing as a *safe* anesthetic, and with it the realization that so long as poisons have to be given, the least amount of the least noxious should be administered. Nitrous oxide, noxious should be administered. Nitrous oxide, expertly given, often with a little ether vapor, and always mixed with sufficient oxygen to prevent

cyanosis, or ether in the hands of an untrained anesthetist.

The discussion was participated in by Drs. Lovenhard, Hitzrot of New York, Puls, and Theinhaus.

Dr. Hitzrot stated that since employing trained anesthetists in the general hospitals in New York City, using ether as the routine anesthesia, in conjunction with gas, the results are well below 5% of post anesthetic complications, as against 12 to 15% formerly. Dr. Puls advocated the use of chloroform by the drop method, and especially in obstetrics where quick results are necessary.

The local reaction following intradermal injections of Tuberculin as a guide to Tuberculin Therapy, was the next paper on the program, by Dr. O. E. Lademann, Milwaukee.

The administration of tuberculin as outlined by the writer consists in the application of the intracutaneous tests as defined by Mantoux as his guide to dosage. A local skin reaction consisting of redness and tenderness, measuring from 4 to 6 cm., appearing within 24, 48 or 72 hours at the site of the injection, is a dose which apparently gives a pronounced focal reaction in addition to stimulating the defensive powers and yet show no evidence of a constitutional disturbance. Determination of the dose in individual cases with reports of results following the administration according to above defined method.

Dr. C. H. Stoddard in discussion gave as the result of his experience that the cases which at the present time offered the greatest chances for control from the use of tuberculin are the surgical cases, the laryngeal cases, those cases which have not as yet formed cavities, and are not throwing off tubercle bacilli; that there is a growing skepticism in regard to the benefits of tuberculin treatment. He would be willing to abandon it if something better were brought forward.

The discussion was participated in by Drs. Willett, Hay, and Warfield. Dr. Willett had not used the intradermal injection nor the filtrate; usually stopped at the dose that produces a slight reaction and continued on that until patient becomes more tolerant to that, then advanced the dose.

Dr. Hay of Stevens Point was thoroughly convinced of the efficacy of tuberculin in the treatment of tuberculosis if properly used. However, we must not rely alone upon tuberculin; does not believe that the size of the dose has anything to

do with the results attained. Has used a dose as small as one one-millionth of a milligram.

Dr. Warfield heartily endorsed the views of Dr. Hay, that too much reliance must not be placed upon the use of tuberculin alone. Was not convinced that tuberculin therapy is of any great value. Does not use it because of confidence that it will cure the patient, but uses it together with everything else in the treatment of the disease, to carry the patient to a better progress in health than he could have had without it; wished to emphasize the point that this method of giving tuberculin is not a subcutaneous method but a strictly intradermal method.

Dr. Lademann, closing, emphasized that the administration of tuberculin is subordinate to the natural forces, good diet and fresh air.

Dr. J. F. Smith, of Wausau, Wis., presented the report of a case of osteitis fibrosa cystica of the lower jaw, illustrating the difficulty of differentiation from sarcoma; also the value of the X-ray as a diagnostic agent; gross and microscopic appearance of tissue removed.

Dr. C. A. Evans, of Milwaukee, emphasized the importance of the proper diagnosis in this disease, the cases being rare; a bone cyst may be looked upon as a benign tumor, as far as treatment is concerned. An exploratory incision should be made in every case before a radical operation. The X-ray is an invaluable help in the proper diagnosis. The discussion of Dr. Evans was illustrated by a number of skiagrams.

The paper was further discussed by Drs. Gaenslen, Federspiel, and Thienhaus, of Milwaukee.

Dr. Smith, closing, stated that he had nothing to add except to emphasize that simplicity of the method of treating these cases. Amputation, resection and other operations formerly resorted to were entirely unnecessary, when we recognize the benign character of the growth. Thought it a mistake to inject bismuth paste or any foreign material into the cavities, and that a small muscle flap should be transplanted into the cavity, and the wound closed primarily.

Dr. J. K. Chorlog, of Madison, presented a paper entitled "The Present Indications for Vaccine Therapy", covering the features, general introduction; short history; indications in typhoid, cholera, plague, diphtheria, tetanus, meningitis, infections due to streptococci, staphylococci, pneumococci, colon bacilli, gonococci, and tubercle bacilli.

The reading of this paper ended the proceedings of the first day. The paper was not discussed.

The morning session on Thursday, October 2nd, was opened by a paper by J. F. Pember and T. W. Nuzum, Janesville, dealing with the study of 28 cases of prostatectomy done by three different methods. Results of questionnaire from American surgeons as to different methods of operating. Summary of seven cases done by the old Y method; fourteen cases done by the perineo-urethral method. Lantern slide demonstration.

Discussion by Dr. Edward Evans, La Crosse, laid stress first on the point that the profession should always be on the lookout for the ear-marks of the enlarged prostate that shows signs of cancer. Make diagnosis as early as possible and second, be very careful in the selection of cases, and go over the case as a whole.

Dr. Williams, of Chippewa Falls, emphasized the importance of properly preparing the patient, in these cases the most common cause of death from the operation of prostatectomy being kidney insufficiency, and acute nephritis; that the patient should be first catheterized twice a day and then gradually increase the intervals to 3 or 4 or 5 times a day, and down to once an hour, thus preserving the kidney sufficiency and preventing these untimely losses.

Dr. Hayes of Milwaukee, thought that any prostate could be taken out by the supra-pubic method that could be taken out by any method, and that it was the best means of operating, and the only means that he had used for several years.

Paper No. 8 by Dr. Paul Eisen, of Milwaukee, was entitled "Radiologic Contributions to a Diagnosis of Obstruction in the Alimentary Tract," and gave the topography of the gastrointestinal tract, discussion of extent of obstruction, with mobility or immobility. Relation of pain, quantity of ingested matter, peristalsis forward or retrograde in diagnosis. Discussion of operability and post-operative function. Value of X-ray as an aid in diagnosis.

Dr. J. L. Yates, of Milwaukee, in discussion, was of opinion that under no other conditions is it more important to bear in mind the fundamental surgical axiom "If good cannot be done, at least do no harm." As much of the work has been carried on insufficiently, if at all controlled by roentgenological studies, much otherwise avoidable harm has been done.

Paper No. 9: "The Modern Treatment of

Syphilis," by Drs. O. H. Foerster, and C. A. Baer, Milwaukee.

Introduction, history, mercury, potassium iodide, spirochaete pallidum, experimental inoculation of animals, Wasserman reaction, salvarsan, luetin, neosalvarsan, treatment of chancre stage, secondary stage, late manifestation, cerebrospinal syphilis.

Dr. L. Schiller, of Milwaukee, opening the discussion of this paper, expressed the view that the complement fixation reaction is necessary in order to positively determine anything concerning the disease after the active symptoms have disappeared, and the physician is now able to determine the actual condition of affairs, regardless of the statements of the patient as to his having or not having had syphilis. The next advance in the treatment is the discovery of salvarsan as an efficient remedy notwithstanding its rather stormy progress.

Dr. C. F. Hoover of Cleveland spoke briefly in favor of mercury. In spite of the long clinical career that mercury has had he thought it was only since the Wassermann reaction the discovery of the spirochetes and the production of salvarsan, that we actually know how to use mercury. His impression up to the present moment is that the only real field for salvarsan is in those patients who cannot tolerate an adequate amount of mercury.

Dr. Foerster believed the vital point in the present day treatment is the possibility of sterilization of the central nervous system, and the prevention of later occurrence of tabes and paresis; believes that one-half of the cases treated 3 years ago with salvarsan, show absolutely normal conditions, and believes that the effect of salvarsan is more definite and more lasting than mercury.

Dr. Baer: The changes in the central spinal fluid appear very early in the disease, and that is the time to institute a very strong, heavy attack.

Paper No. 10: "Extra Sacular or Sliding Hernia," by Dr. V. F. Marshall, Appleton.

Extrasacular or sliding hernia of the large intestine or bladder has a peritoneal covering which is but partial; the condition is more common than was at first believed; it owes its development to an embryological origin; relapses are frequent and its cure may tax the ingenuity of the surgeon to his utmost; report of case of hernia of 16 years duration, left the hospital 16 days after operation, having made an uneventful recovery.

Dr. Edward Quick, of Green Bay, in opening the discussion, believed that in the operation we

should be careful not to injure the blood supply of the gut which is contained in the hernia, and sometimes it is very difficult to isolate the contents of the hernia and the sac from the structures of the cord, and it has been found necessary by some operators to sacrifice the testicle in completing the operation.

Dr. C. M. Echols, of Milwaukee, read a paper on "The Serum Diagnosis of Pregnancy," giving results of 57 tests made according to Abderhalden's method by dialysing proteolytic products and testing the dialysate for these substances, giving details of the test. The test, briefly, consists in adding a definite amount of the serum of a pregnant woman to a small quantity of the cooked human placenta. If at the end of a stated interval any digestion of the placental proteids has taken place, then the woman is pregnant or has been very recently, and vice versa. Dr. Echols gave it as his opinion that the tests will probably never be simple enough for the general practitioner to carry out, but that there is reason to believe that when done in properly equipped laboratories, Abderhalden's method will in the course of a year or so take its place with the Wassermann and Widal reactions in point of reliability.

Dr. Warfield, in discussion, reported having tried out the test in a limited number of cases at the Milwaukee County Hospital; had recently given up the Abderhalden test and confined himself to experiments on the detection of what he supposed to be amino-acids and products of proteolytic digestion in the urine. Can we diagnose the functional insufficiency of the kidney by means of this dialysing test? If we can find a test which is simple, and which will enable us to prognosticate the onset of toxemia of pregnancy, we will have advanced a tremendous step in the protection of the pregnant woman.

Dr. Daniel Hopkinson reported that in his experience the test required the greatest of care, and that if it were possible to substitute some form of complement fixation, it would be more reliable.

Paper No. 12: "An Operation for Painful, Intractable Sacroiliac Strain," was read by Dr. Edward Evans, of La Crosse.

Points of contact in general and orthopedic practice: sciatica; sacroiliac strain; faulty attitude; lumbo-sacral strain; spondylolesthesis; tuberculosis of the sacroiliac joint; tuberculosis of the lower lumbar vertebrae; appendicitis and so-called ovarian neuralgia; malignant disease, involving the

sacroiliac joint; foot strain; infantile paralysis; chronic vesiculitis and prostatitis. Pott's disease; operation, the obliteration of the sacroiliac joint.

ANNUAL ADDRESS IN MEDICINE; THE CLINICAL STUDY OF RESPIRATION, by Dr. C. F. Hoover, of Cleveland, illustrated by charts.

Paper No. 14: "The Effects of Athletic Sports on the Heart," by Dr. C. R. Bardeen, of Madison.

The increasing amount of cardio-vascular disease noted in this country by life insurance companies and others makes it important for the physician to make himself acquainted with the chief causes responsible for these conditions so that he can protect his patients. Overexertion in competitive sports, especially in school boys, is one factor. From five to ten per cent of freshmen entering the State University have cardiac hypertrophy with dilatation attributable to athletic sports. While in most cases there is good compensation, in many there are mitral murmurs and a myocardiac irritability which not only keeps these students out of college sports but to some extent hampers their scholastic work in college. Practically all college students taking part in the major sports have hypertrophied hearts. While in many cases compensation is good, in a large number there is a myocardiac irritability sometimes accompanied by mitral murmurs which indicate somewhat serious lesions. In the past two years there have in addition been four cases of acute cardiac dilatation among the relatively few members of teams in the major sports to one case among the far greater number of students not members of teams. In this latter case the dilatation occurred while the student was running in the gymnasium.

Paper No. 15: "The Value of Medical Inspection of School Children to the Community," by Dr. G. P. Barth, of Milwaukee.

Health supervision of school children is a strictly utilitarian procedure. It is an organized effort to help teachers meet their responsibilities towards the child bodies which it is their business to assist; to help parents to keep their families healthy, properly nourished and clean in mind and body; to help the taxpayer to get all that he pays for in the way of education, and to help build up with more certainty and security a race of strong, healthy, well-balanced men and women.

The vast majority of children depend much more on the physical fitness for success in life than on mental acuity or attainments.

Medical supervision of school children is a decided factor in the control of infectious and contagious diseases and thereby prevents much suffering, invalidism, crippling, and many deaths. It saves large sums to the state by a great reduction in absenteeism through illness, by the lessening of retardation, and the less frequent necessity for closing schools because of epidemics. By the organization of special classes for the work, the crippled, the mentally deficient and the proper selection of attendants at those classes it rescues many children from becoming public charges later in life.

As a factor in educating the public, both children and adults, in personal hygiene, in the prevention of disease and in the general problem of how to live, it stands supreme.

Dr. Beffel, of Milwaukee, thought that children in the parochial schools are as much entitled to the benefits of medical instruction as are the children in public schools; urged that the work be extended to take in parochial schools, be extended to take in from the birth of the child on; urged that the parents be kept informed by some system of physical marking, of the physical condition of the child.

Dr. Bardeen, in closing, stated that medical instruction of the school children in the city of Madison, has been begun in a modest way, and also in the parochial schools.

Paper No. 16: "Certain Aspects of Cardio-Renal Disease," by Dr. R. L. Schulz, of Wauwatosa, and L. M. Warfield, Milwaukee.

A brief review of the recent work on this group of cases with a discussion of several groups into which the cases fall, and a discussion of the value of some functional tests, especially sodium chloride, lactose, and phenolsulphonophthalein. Brief reports of several illustrative cases, and a summary of attempts to control the function of the kidneys by means of various therapeutic measures.

Dr. L. F. Jermain, of Milwaukee, in opening the discussion upon this paper, stated that he relied almost entirely in these cases upon blood pressure estimation; that even though the heart is greatly embarrassed, and though there is decompensation, the blood pressure remains relatively high throughout. Has long believed that over-eating is one of the most prolific causes of nephritis, and that cutting down the food supply will reduce the blood pressure and add many years to a useful and active life.

Dr. Townsend, of New Lisbon, believed that too much reliance is placed upon laboratory diagnosis; that country practitioners diagnosed these cases without test tubes, by the headache signs, the optic neuritis, the loss of flesh, shortness of breath; and the asthmatic attacks.

Paper No. 18: By Dr. A. H. Sanford, of the Mayo Clinic, Rochester, Minn., on the "Clinical Value of Stool Examinations."

Resume of about 2,000 stool examinations made at the Mayo clinic. Brief consideration of technique. Importance of examinations for intestinal parasites in northern states and case reports. Plea for more attention to this branch of chemical laboratory work.

Preparation of patients; digestive function; occult blood; intestinal parasites; report of cases.

Discussion participated in by Drs. Daniel Hopkinson, Warfield, and Wehle.

Paper No. 19, by Dr. F. G. Connell, Oshkosh, Wis., entitled "Anaphylaxis in Cancer."

Number of experiments does not permit of definite conclusions.

Paper No. 20: ANNUAL ADDRESS IN SURGERY—SOME PROBLEMS IN BONE SURGERY, by Dr. J. M. Hitzrot, New York.

In regeneration of bone the lecturer's experience both clinical and experimental shows that in the healing of the bone after fracture, the periosteum and the endosteum are the chief factors in the process of repair, and that the cortical bone has a relatively slight, if any, function in the formation of the new bone tissue; illustrated by slides. Concludes that the best graft is one covered by periosteum and with endosteum on its inner surface; that there is a wide variation in the results obtained by the free transplantation of the periosteum, which depends upon a number of factors which influence bone formation in the periosteum, such as age, the presence of blood and fibrin, which can be readily demonstrated; and certain other as yet undetermined factors which seemingly cause a failure of bone production by the periosteum under apparently identical conditions; that the endosteum is as important a factor in the regeneration of the transplanted bone as it is in the healing process in fracture.

The first paper read on the morning of Oct. 3rd, was entitled: "Points of Contact in Orthopedic and General Practice," by Dr. F. J. Gaenslen, Milwaukee.

Sciatica and weak and painful back. Great ma-

majority of these cases sacroiliac strain. Allied condition and differential diagnosis. Pott's disease in adults. Infectious arthritis of spine. Charcot joints, mechanical treatment. Flat foot, types and treatment.

Dr. H. E. Dearbolt, of Milwaukee, in discussion spoke of the large number of these cases going about untreated, which probably more than any other class of cases in the field of medicine and surgery are responsible for the existence of independent cults, such as osteopathy, and chiropractic, etc.; broad field left by the medical men for these cults to work in.

Paper No. 23: "The Intra-Nasal Treatment of Chronic Frontal Sinus Suppuration," by Dr. W. E. Grove, Milwaukee.

A brief discussion of the anatomy of the sinus, sketching of various methods of treating chronic frontal sinus suppuration including the radical operations of Riedel, Killian, etc. A description of the intra-nasal operations practised for the relief and cure of this condition including mainly those of Ingals, Goode and Halle. A more detailed description of his own method of operating. A resume of the results obtained in a number of cases.

No intra-nasal operation is ever intended to entirely replace the radical external operations on the frontal sinus. In all cases where complications exist or are feared, in all cases of double chambered sinuses, where the infection lies in the outer half, in all cases where thorough intra-nasal operations have been tried without benefit, the radical operation is indicated. However, intra-nasal operation can be completed in 15 to 20 minutes under local anesthesia, offers as large a chance of relief and cure as the external operation in selected cases, and is an excellent preliminary measure to a radical operation.

Dr. H. B. Hitz, of Milwaukee, in discussion, was of opinion that if results can be obtained by an internal operation, that should be resorted to every time; however, in many cases nothing but a radical operation is of any avail.

Dr. F. Pfister, of Milwaukee, advocated the Killian operation, or a modification of it in a case of frontal sinusitis that cannot be cured in the ordinary way; thought there was not much more danger than with the internal operation, and the deformity could be prevented to a great extent.

Dr. Edward Quick, of Green Bay, read a paper

on "Acute Ileus," a consideration of enterotomy and enterostomy in its treatment. Used enterostomy 5 times in what seemed desperate situations, with 100% recoveries. Such record cannot continue but thinks the device based on sound principles, and should reduce the death rate in ileus, mechanical and inflammatory. Does not recommend enterostomy except in situations of the utmost gravity, where there is marked collapse, profound toxemia and impending dissolution.

Paper No. 24 was read by Dr. C. J. Habhegger, Watertown, on "Volkmann's Ischemic Paralysis."

Prognosis depends wholly on the amount of muscle destroyed. Report of typical case; operation and subsequent treatment. Believes contractures due in the majority of cases to ischemia of muscles and nerve involvement. Prognosis bad in severe forms, where there is much destruction of muscle tendon, nerves or vessels.

The reading of Dr. Habhegger's paper closed the regular program, and the President announced that the meeting had been a highly successful, interesting and very profitable one; announced that the meeting of the Wisconsin Anti-Tuberculosis Association met in the St. John's Cathedral Hall.

The President then introduced Dr. Sheldon as the new president of the Association and bespoke for him the hearty co-operation of the members of the Society.

Dr. Sheldon, on assuming his new duties, announced that he took all these bouquets in the proper spirit, with due humility; thought that every year the general meeting ought to be brought into closer relation to the House of Delegates; announced that the next meeting will be held at Oshkosh, and that he would regard it as a personal affront if the members do not all come. Accepted the office of President with an earnest desire to do all that he could to make this a successful year, and to have a successful meeting.

The retiring President, Dr. Patek, paid a tribute to Mr. Henry D. Goodwin, who was for many years the reporter of the State Medical Society, as a man of scholarly attainments, and closely associated with everything that was scientific, and very devoted to the science of medicine. Mr. Goodwin died on September 21st.

Mr. C. A. Umbreit then addressed the members of the Society briefly upon the subject of Medical Legislation, stating that the last bill introduced had failed of passage through inattention on the

part of the profession, and giving the proposed features of a new bill, which he hoped might pass at the next session.

Thereupon the meeting adjourned.

EAU CLAIRE COUNTY

On Monday evening, Sept. 29, the Eau Claire County Medical Society held its first meeting after the summer intermission of two months. About thirty physicians were present to listen to one of the best programs the Society has had for a long time. Dr. T. W. Stumm, of St. Paul, gave a very strong and practical paper on "Gastric and Duodenal Ulcer: Recognition and Treatment." Dr. Derge opened the discussion, then a general discussion followed. Dr. A. E. Comstock, of St. Paul, gave a very practical and interesting paper on "Operative Treatment of Fractures," and his paper showed that he had had large experience in this line of work, and a master of technique. The discussion of Dr. Comstock's paper was opened by Dr. E. L. Mason, and a general discussion followed, which strongly indicated that all doing surgical work were deeply interested in the operative treatment of fractures. After the program a smoker and social time was enjoyed by all.

E. E. TUPPER, M. D., *Secretary*.

ROCK COUNTY

Rock County Medical Society held the first meeting of the season at Edgerton on September 30th. The meeting was largely attended. Following is the program: "Report of a Case of Glycosuria of Pregnancy," Dr. W. J. Allen. Discussion by Drs. B. L. Cleary and M. A. Cunningham. "A Thirty Year Retrospective of Pneumonia," Dr. W. McChesney. Discussion by Drs. J. F. Pember and J. M. Evans. "Treatise in General Anesthesia," Dr. W. M. McGuire. Discussion by Drs. G. C. Wauflle and H. C. Maurer.

WAUKESHA COUNTY

The regular meeting of the Waukesha County Medical Society was held at the Waukesha Springs Sanitarium, September 3, 1913, the president, Dr. Caldwell, presiding. At the close of the preliminary business meeting Dr. B. M. Caples read a paper entitled "The Sterilization of the Unfit" touching on the law and sociological features in particular. A discussion of the paper followed in which Drs. Hodgson, Aplin, and Hoyt were prominent speakers. Senator Hoyt being sponsor for the sterilization bill that was passed by the last legislature, he explained at length his reasons for advocacy of the measure.

The meeting was the largest in the history of the County Medical Society, and much interest was shown in the paper before the society.

At the close of the literary program those present were invited to the dining room where a sterilized luncheon awaited them.

S. B. ACKLEY, M. D., *Secretary*.

FIRST DISTRICT MEDICAL SOCIETY.

The annual meeting of the First District Medical Society of Wisconsin was held at the Woodland Park Hotel, Oconomowoc, on Sept. 11th. About thirty members were present. The organization comprises Jefferson, Waukesha, Washington and Dodge Counties.

Dr. Warfield of Milwaukee gave an exhaustive talk on "Blood Pressure and Blood Pressure Instruments." Discussion by Drs. Hodgson, A. W. Rogers, Wilkenson, and Wehle.

Dr. A. W. Rogers read a paper on "The Relation of Pernicious Anemia to Nervous Diseases." Discussion by Drs. H. G. B. Nixon, Peterson, Wilkinson, Wehle, A. J. W. Nixon.

The officers elected for the following year are: Dr. H. C. B. Nixon, Hartland, president; Dr. W. J. Wehle, West Bend, vice-president; Dr. S. B. Ackley, Waukesha, secretary-treasurer. The next annual meeting will be held at Hartland in August, 1914, at the home of Dr. H. G. B. Nixon. There were twenty-five present.

S. B. ACKLEY, M. D., *Secretary*.

SECOND DISTRICT MEDICAL SOCIETY.

The tenth annual meeting of the Second District Medical Society was held at the Country Club, Racine, on September 5th. The delegates were the guests of William Horlick, Sr. The members of the Lake County (Illinois) Medical Society attended in a body with other guests from Wisconsin and Illinois. The program opened at 12:30 with a business meeting. At 1:15 a banquet was served. A scientific meeting followed the banquet. Among the speakers were Dr. Isaac A. Abt, of Chicago, professor of pediatrics at the Northwestern University, who spoke on "Recent Conceptions of Nutrition and Nutritional Disturbances in Infancy." Over seventy physicians from Milwaukee, Racine, Walworth and Kenosha Counties attended.

The officers elected for the ensuing year are: Drs. G. H. Young, Elkhorn, president; M. V. Dewire, Sharon, secretary-treasurer. It was decided to hold the 1914 meeting in Walworth County, the place to be determined later.

NINTH COUNCILOR DISTRICT.

The annual meeting of the Ninth Councilor District Medical Society was held at Wausau on September 25th. The program was an excellent one and the meeting was largely attended. Following is the program. Clinic—Neurological Cases—St. Mary's Hospital, Dr. Peter Bassoe, Chicago. "Pains in the Face, Their Diagnosis and Treatment, with Special Reference to Trifacial Neuralgia," Dr. Peter Bassoe, Chicago; "Medical and Surgical Aid Under the Workman's Compensation Act," Wm. A. Fricke, vice-president and general manager of the Employers' Mutual Liability Co., Wausau; "Some Problems of Adolescence," Dr. F. A. Southwick, Stevens Point.

SOCIETY OF WISCONSIN MEDICAL WOMEN.

The annual meeting of the Wisconsin Medical Women's Society, September 30 and October 1, at Hotel Pfister,

Milwaukee, was a decided success. The papers which will appear in future issues of the JOURNAL dealt largely with subjects related to preventive medicine and work of that character was planned for the coming year.

The luncheon provided by Dr. Irene Tomkiewicz was perfect in all its appointments, the tables decorated with blush roses and the good cheer provided made a happy beginning for the enthusiastic meeting which followed. The banquet in the "Red Room" with unique place cards, dainty favors and beautiful flowers was a delightful affair, while the toasts spicy and pointed were a feast in themselves.

One-half of the medical women of the State are now enrolled as members.

The new officers elected are President, Dr. Julia Riddle, Oshkosh; Vice-President, Dr. Carrie A. Frost, Chipewa Falls; Secretary, Dr. Irene G. Tomkiewicz, Milwaukee; Treasurer, Dr. Helen A. Binnie.

BOOK REVIEWS

STUDIES CONCERNING GLYCOSURIA AND DIABETES. By Frederick M. Allen, A. B., M. D. Pages 1179, Octavo. W. M. Leonard, Publisher, Boston, 1913. Price, \$9.00.

This research volume of some 1100 pages is to the reviewer's mind about as monumental a work as it has been his lot to encounter. The work represents the results of three years' research at the Harvard University Medical School. The subject is divided into twenty-three chapters and scattered throughout the work are numerous complete protocols of animal experiments. For a research worker or for one interested in the question of diabetes as a specialist and for the one who wishes to look up any point in any feature of diabetes, this book would seem to supply the facts. In the nature of things it is necessarily impossible for the reviewer to read all of the book; perusal here and there leaves no doubt in his mind that such a book should be in the library of every medical school and medical society and would be a valuable addition to the private library of any research worker. There is a voluminous bibliography, covering seventy-eight pages. There is no index but the table of contents is so carefully divided that there is no trouble in finding what one wishes.

The scope and completeness of the work may be inferred from the following list of chapter headings: Glycemia, Glycosuria, and Glucose-Tolerance; Administration of Carbohydrates Other than Dextrose; Repeated Injections, Parenteral Feeding; Effects of Sugar in Young Animals; Diuretic Action of Sugars; The Amboceptor Hypothesis; Levulose and Levulosuria; The Oat Cure; Operative Diabetes; Diabetes Insipidus; Classification of Glycosurias; Alimentary Glycosuria and Diabetes. Acidosis; Phloridzin; Adrenalin; The Nervous System in Relation to Glycosuria and Diabetes; Miscellaneous Attempts at Diabetic Therapy; The Polyglandular Doctrine; The Liver and Diabetes; Anatomy; Experiments; Relations of Internal and External Pancreatic Secretion; Summary; Appendix.

L. M. W.

MINOR AND OPERATIVE SURGERY, INCLUDING BANDAGING. By Henry R. Wharton, M. D., Professor of Clinical Surgery in the Woman's Medical College, Philadelphia. New (eighth) edition, enlarged and thoroughly revised. 12mo, 700 pages, with 570 illustrations. Cloth, \$3.00, net. Lea & Febiger, Philadelphia and New York, 1913.

In the course of its various revisions this work has evolved from a small treatise on Minor Surgery and Bandaging into a much more comprehensive volume which now includes Operative Surgery as well.

The subject of Bandaging is considered with great clearness and numerous well-planned illustrations. Minor Surgery, Asepsis and Antisepsis, Fractures, Dislocations, Ligations, and Amputations are all considered in a careful, conservative manner in separate sections, and the final section is devoted to Excisions of Joints, Resections, and Special Operations.

This is an excellent work and the reviewer has no hesitation in commending it to the student or general practitioner on account of the value of the earlier sections. As to the sections on Operative Surgery it seems to the reviewer that there is either too much or too little, and the question presents itself: Would it not be better to present this subject in a separate volume of larger size? A work of this character from the pen of Dr. Wharton would find a ready welcome.

OBSTETRICS. A Manual for Students and Practitioners. By W. P. Manton, M. D., Professor of Obstetrics and Clinical Gynecology, Detroit College of Medicine, Detroit, Mich. Second edition, revised and enlarged; including selected list of State Board Examination Questions. 12mo, 292 pages, with 97 engravings. Cloth, \$1.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

This little volume fills admirably the twofold purpose for which it was created, namely, a convenient manual by which the physician can quickly refresh his memory, and an excellent means by which the student can review his course on obstetrics in preparing for examination. The questions appended to each chapter will be found a strong mental stimulus. The revision for this new edition has been so thorough that it has amounted virtually to a rewriting, so that the book is really a new one. It is exceptionally well illustrated, and is typographically all that could be desired. Its large circulation is apparent in the unusual value which the purchaser receives.

LANG'S GERMAN-ENGLISH DICTIONARY OF TERMS USED IN MEDICINE AND THE ALLIED SCIENCES. Second edition, edited and revised by Meyers, Milton, K., Philadelphia. 564 pp. P. Balkiston's Son & Co., 1012 Walnut St., Philadelphia. 1913. This dictionary, as the author says is intended to be a complete glossary of German medical words in common use and of a large number of terms employed in the ancillary sciences, particularly chemistry, biology and pathology. The only words which have been intentionally omitted are those which are spelt identically in the two languages. The second edition

contains 4400 definitions in addition to the more than 45000 published in the first edition, omitting particularly obsolete ones. As the author invites criticism and having attention called to omissions and inaccuracies, a few may be mentioned: Turmschaedel pyrgocephalus, kahnförmiger Schaedel-scaphocephalus, Spitzkopf-oxycephalus, Chalkosis, Siderosis, merangisch, holangisch, Embryontoxon, Chloropsie, Ianthopsie, Kyanopsie, Anosurie, gyrencephalisch, Kenogenese, maiotisch and its compounds, under Gemeingefühl Coenesthene, enthetisch, Turbinotomic, Stereognose, Amelie, tapotement, Poikilothermie, etc. "Zwitter" is hermaphrodite, not hybrid or mongrel. The German word for these is "Bastard", but is missing. "Ausstrich-präeparat" is smear. "Metzelsuppe"—Wurstsuppe, is made of sausage. The translation for Anlage in the embryological sense is the Greek word "proton". "Wechselfieber" is not only intermittent fever, but the German word for malaria. Although some of these are the same in both languages, it would seem advisable to have their meanings explained. Why "Brunst" is referred to "Brunft" is not clear. "Balgdrüsenhöhle" has a superfluous "n". Under "Schwarte" we miss plastic, organized exudation. The adoption of English type also for the German words is of great advantage and adds to the very good external appearance. Aside of these few inaccuracies pointed out the book serves a very useful purpose by aiding English speaking readers in the understanding of German medical literature and is heartily recommended.

C. ZIMMERMANN.

HAND-BOOK OF SPECIAL SURGERY OF THE EAR AND THE UPPER AIR PASSAGES. Edited by L. Katz, Ludwigshafen, H. Preysing, Coeln, and F. Blumenfeld, Wiesbaden. Second, enlarged edition. Vol. I, first half, 394 pp., second half, 481 pp., with numerous figures in the text and lithographic plates. Würzburg. Curt Kabitzsch. 1913. 42 m. and 28 m. \$10.50 and \$7. Leather \$1 more each volume.

Thus fundamental work will be of the greatest interest to our readers, not only to the specialist, but also to the general physician, as it offers a most exhaustive discourse on the present state of our knowledge in otology and rhino-laryngology for practical utilization. The authors state in the preface that with regard to the extensive literature they considered it their task more to collect the results for practical use than to give a review of the publications. Thus the chief stress was laid on the following points: topographic anatomy with especial reference to the fields of operation for practical requirements; minute description of the various methods with objective weighing of their respective merits and preferences; a clear presentation of operative procedures according to the situation of cases; exact formulation of indication, description of instruments, critical valuation of the operative permanent results and after treatment. The first half contains masterly treatises on the topographic anatomy of the head, exclusive of nose and ear, of the oral pharynx, neck and mediastinum by J. Sobotta, of the nose and accessory sinuses by O. Onidi, of the hearing organ by Stenger, and the lymphatic apparatus of the head and neck by A. Most, principles of

general anesthesia by R. Haecker, local anesthesia of nose and throat by Heymann, and of the ear by Voss, congestion therapy of Isemer, and expert testimony with regard to persons operated upon. The second half presents the treatment of stenosis by Pieniasek, cosmetic operations, viz., protheses by G. Port, corrective rhinoplastics and otoplastics by J. Joseph, paraffin therapy by A. Stein, plastic operations by P. Bockenheimer, Roentgen diagnostics in diseases of the accessory nasal sinuses, hypophysis, teeth and ear by A. Kuttner, phlegmonous inflammation of the upper air passages by E. Meyer, septic diseases by A. Kissling, Hamburg.

The value of the work is greatly enhanced by the abundance of splendid artistically executed plates, which represent a regular atlas. The external appearance, print and paper, is of superior quality. The first edition was large but it was so much in demand that before its completion this second edition became necessary, clearly illustrating how much the excellent work filled an actual want.

C. ZIMMERMANN.

CLINICS OF THE SEROUS AND PURULENT INFLAMMATIONS OF THE LABYRINTH. "Klinik der serösen und eitrigen Labyrinth-Entzündungen." Ruttin, Erich, Assistant at the ear clinic of Prof. V. Urbantschitsch in the University of Wien. With a preface by Prof. V. Urbantschitsch. 196 pp. with 23 figures in the text. Wien und Leipzig. Josef Safár. 1912. 6.50 Mark \$1.65.

The author who for years devoted special attention to the diseases of the labyrinth and published very valuable essays on the subject gives here a very detailed description of the diseases of the labyrinth. First the functional tests of the cochlea and the vestibular apparatus are very clearly expounded, then the pathology, etiology, symptoms, prognosis and treatment of the circumscribed diffuse serous, secondary, and diffuse purulent labyrinthitis. The indications to radical and labyrinth operations are carefully mapped out and the technique of the labyrinth operations minutely described with illustrations. After further chapters on injury of the labyrinth, serous induced labyrinthitis, labyrinthitis and brain abscess, more than the second half of the book is devoted to clinical histories and autopsies.

The work represents the standpoint of the Vienna school which essentially promoted the knowledge of the phenomena of the healthy and diseased labyrinth and largely contributed to the therapy of these diseases. It is a most valuable contribution to the subject and deserves the largest circulation.

C. ZIMMERMANN.

A MANUAL OF OTOTOLOGY. By Gorham Bacon, A. M., M. D., Professor of Otology in the College of Physicians and Surgeons, Columbia University, New York. New (6th) edition, thoroughly revised. 12mo, 536 pages, with 164 engravings and 12 plates. Cloth. \$2.25, net. Lea & Febiger, Philadelphia and New York, 1913.

This excellent Manual has been subjected to a thoroughgoing revision. The articles on suppurative labyrinthitis and the submucous operation have been wholly rewritten and considerably enlarged, and that on oto-

sclerosis has been recast. Due emphasis has been laid on the modern methods of excision of the tonsils, on vaccine therapy, and on the early examination of the cerebrospinal fluid in lept meningitis. A number of case histories have been inserted and new illustrations have been added where it seemed desirable.

The chapters on the Anatomy and Physiology of the Ear and Methods of Examination of the Ear are so clear and complete that they will especially recommend the work to the general practitioner who is obliged to do a certain amount of ear work. In fact the whole book is one which will be particularly appreciated by the general practitioner on account of the clearness and simplicity of its descriptions, the definiteness and preciseness of its teachings, and the number and value of its illustrations.

The chapters on Chronic Catarrhal Otitis Media and Chronic Purulent Otitis Media, are especially full and excellent.

We take pleasure in commending this Manual to our readers.

THE ELEMENTS OF BACTERIOLOGICAL TECHNIQUE. By J. W. H. Eyre, M. D., Director of the Bacteriological Department of Guy's Hospital, London. Second edition, rewritten and enlarged. Octavo of 518 pages, with 219 illustrations. W. B. Saunders Company, Philadelphia and London, 1913. Cloth, \$3.00, net.

The Second Edition of Dr. Eyre's book is before us; somewhat larger, with revision of methods and addition of new methods. The book represents the results of practical bacteriological technique in the laboratory, contains formulæ for all the different media, stains, and numerous very excellent illustrations of laboratory apparatus. The book is somewhat elementary but can be used to advantage by any laboratory worker and will be found of considerable help in the preparation of bacteriological materials. There are chapters on water and milk analyses, sewage and soil, and disinfectants. The print is exceedingly clear and the book is very attractively made.

We have no hesitancy in recommending this to physicians as a very practical laboratory manual.

L. M. W.

MALARIA, ETIOLOGY, PATHOLOGY, DIAGNOSIS, PROPHYLAXIS, AND TREATMENT. By Graham E. Henson, M. D., with an introduction by Charles C. Bass., M. D., 173 pages, 27 illustrations. Price, \$2.50. C. V. Mosby Co., St. Louis, Publishers.

The little volume that lies before us is an attempt to give in brief form a helpful manual especially for those who are working in malarial countries. The book seems to fulfill the purpose for which it is written and we feel safe in stamping our approval for those who care for such a manual. The author has divided his subject into nine chapters, paying some attention to the mosquito and to prophylaxis. A number of tables add much to the book and the few illustrations are fairly well done. There is a list of authors and a general index which seems adequate. The book is gotten up in the style of a small monograph series which the publishers are putting out and makes a fairly neat appearance.

L. M. W.

JOKES AND NEAR JOKES

Stranger—My friend, why are you swearing so?

Cussity—Why? Because of a blank fool of a doctor. I got some pills for a pain in my back, and the directions read: "Take one a half hour before you feel the pain coming on."—*Harper's Weekly*.

INGENUOUS.

Marion came to the breakfast table late, and was scanned by the reproachful eyes of her mother.

"Did that young man kiss you last night, Marion?"

"Now, Mother," said the very pretty girl, with a reminiscent smile, "do you suppose that he came all the way from Blue Rock to hear me sing?"—*March Lippincott's*.

AMICABLE ALICE.

Alice: "Papa, it's going to snow."

Papa (who is busy): "Well, let it snow."

Alice: "I was going to, Papa."

—*March Lippincott's*.

AN OUTCAST.

This very morning I was told,
Impressively, I had a cold.

I ought to know it, I suppose,
Because I own my throat and nose.

But, being told, it's up to me
To hide myself, I plainly see.

To take my throat and its distress
'Way off to some vast wilderness,

To where in comfort I may sneeze
And cough as much as I durn please,

And blink and gasp and wipe my eyes
Where none is near me to advise;

Far off from that officious tribe
Whose greatest joy is to prescribe,

To say that they have suffered, too,
And know exactly what to do—

The sympathizing friends who say
They'd knock it out in just a day

And then expect a man to cope
With their especial sort of dope.

I'm going to where I won't be told
I should do something for that cold.

—*The Texas Medical News*.

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ORIGINAL ARTICLES

INTRASPINOUS MEDICATION IN PARESIS AND TABES*.

BY W. F. LORENZ, M. D.,

MENDOTA, WIS.

Realizing the pessimism that exists regarding the value of treatment of either paresis or tabes, my first endeavor will be to point out briefly the observations made in recent years that warrant remedial efforts in either of these conditions. These observations all point to a common goal, namely, that paresis, and this necessarily includes tabes, is an expression of active syphilis. The findings which lead up to this conclusion are:

1. Pathological spinal fluid in which the pathology consists of an increase in the number of lymphocytes and an increase of the globulin constituent.

2. A positive Wassermann reaction with both the blood and spinal fluid in over 75% of the cases.

3. The demonstration of the syphilitic organism by Noguchi and Moore¹ in the brains of paretics that came to autopsy; findings which have since been corroborated by Marie, Levidite and Bankowski².

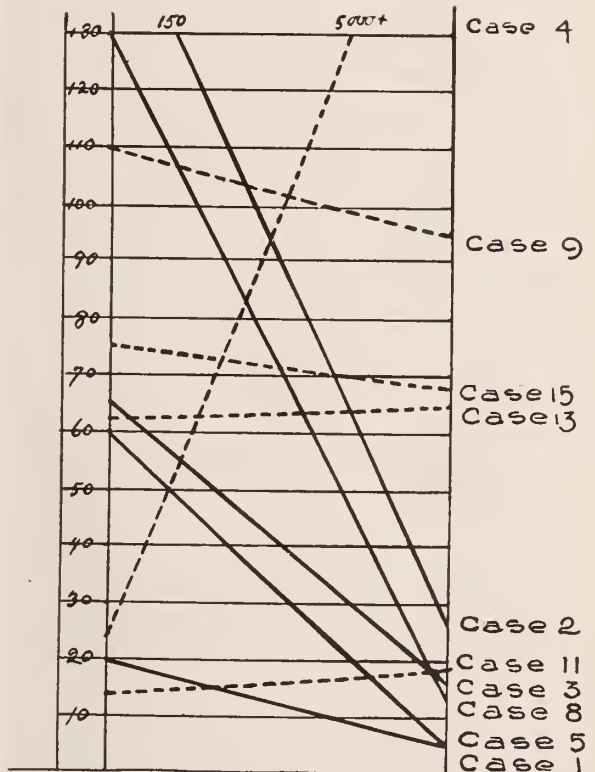
4. Finally, the most conclusive evidence—the discovery by Forster³ of living spirochetes in brain tissue taken by actual puncture during life.

These findings firmly establish the etiology of paresis. The clinical manifestations of this malady, its progressive course, pointed to an active virus which now we know to be syphilis. The treatment indicated is therefore an antisymphilitic measure. Salvarsan has proven its worth in early syphilis and must now be called upon in this later phase of the disease.

Previous to the findings quoted above, many

cases of paresis and tabes were given the Ehrlich preparations. The reports appearing in the literature have not been uniformly good. In many instances no improvement occurred and in others the effect was very trivial. Knowing the spiril-

CHART NO. 1-A.



Cell Count on left side made before treatment; on right side after treatment.

Solid line indicates marked improvement.

Broken line, unchanged or aggravated.

locidal powers of salvarsan, taking into account its remarkable effect in early syphilis, these failures to improve the late conditions could not be accounted for on the basis of drug impotency. An explanation has been offered, however, on the grounds that in paresis and tabes the organism is relatively isolated.

Swift and Ellis⁴ have drawn attention to the fact that in central nervous syphilis the maximum

*Read at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 1, 1913.

histological changes occur in the neighborhood of lymph channels and spaces. Furthermore, that these lymph channels and spaces are in direct continuity with the subarachnoid space and are relatively less accessible through the blood stream. It has been asserted that the choroid plexus offers a

They concluded that salvarsan was too irritating when introduced within the spinal canal. They found, however, that blood serum from an individual who had previously received an intravenous injection of salvarsan could be used by the intraspinal route without injury. They claimed this

CHART NO. 1.

* Cs. No.	Before Treatment				After Treatment.			
	Cells	R. J.	Nog.	Wasser.	Cells	R. J.	Nog.	Wasser.
1	20	+	+	++	5	-	-	-
2	150	+	+	+++	27	+	±	+++
3	66	+	+	+++	15	+	+	+++
4	24	+	+	+++	5000	++	++	-
5	60	+	+	++	5	-	-	-
6	83	+	+	++	22	-	-	++++
7	84	+	+	+++	42	-	-	++++
8	130	+	+	+++	13	-	-	++
9	110	+	+	++++	95	+	-	-
10	23	++	+	++++	10	+	+	++++
11	14	+	+	++++	18	+	+	+++
12	47	+	+	++++	29	+	+	+++
13	62	+	+	++++	65	+	+	++++
14	11	+	+	+++	10	-	±	+
15	75	+	±	++++	69	+	+	++

Showing Cell Count; Ross Jones; Noguchi Butyric Acid Test and Wassermann, Before and After Treatment.

Abbreviations: — Cells = Lymphocytes per c.mm. R. J. = Ross-Jones Test; Nog. = Noguchi butyric acid test; Wasser. = Wassermann Test; +, Positive; -, Negative; ±, faintly positive.

barrier to drugs circulating in the blood. Taking into account the failures to improve central nervous syphilis by injections of salvarsan into the blood, the peculiar anatomical structure of the central nervous system, the inaccessibility of the lesion through the blood stream, though it is practically bathed in the spinal fluid, Swift and Ellis began a method of treatment in which an effort is made to reach the site of the lesion through the medium of the spinal fluid.

blood serum has a definite effect on congenital and secondary syphilis: that it inhibits the growth of treponema pallidum in cultures: that it inhibits the growth of the spirocheta of relapsing fever in mice: that it is effective in central nervous syphilis when introduced into the subarachnoid space.

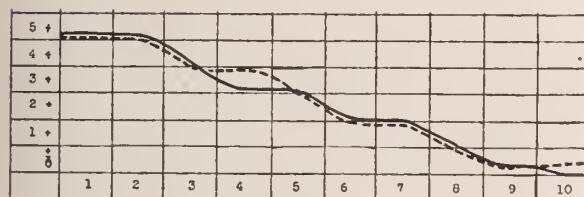
Their method is as follows:—Treat the patient with salvarsan or neosalvarsan by intravenous injection. One hour later withdraw 40 to 50 c. c. of blood. 12 c. c. of this serum is diluted with

18 c. c. of normal serum. This mixture is heated to 56 C. for one-half hour. A lumbar puncture is made; spinal fluid withdrawn and this diluted serum injected by gravity through the lumbar puncture needle.

Their method of treatment was used in five cases, Nos. 1, 2, 3 and 4 shown on the charts. In all cases very alarming symptoms followed the injection. Two died, one fourteen hours and the other twenty-four hours after the injection. After communicating with Dr. Louis Warfield, who, I learned, had used salvarsan directly, that is, not through the medium of the blood serum, I began the direct intraspinal injection of very dilute solutions of neosalvarsan. Cases 5 to 15, inclusive, were treated in this manner.

Our technique is as follows:—A lumbar puncture is made. The pressure of the spinal fluid is

CHART NO. 2.



Graphic representation of "Gold Sol" Test.

Solid line represents test made before treatment.

Broken line represents test made after treatment.

Figures on left margin indicate degree of reaction.

Figures on lower margin indicate Test Tubes from 1 to 10.

noted by means of a capillary tube attached to the puncturing needle. A connection is then made by means of a rubber tube with a specially devised burette. This burette receives the outflowing spinal fluid. Depending upon the original pressure reading, 5, 10, 15 or more c. c. of fluid are taken from the burette by means of a three-way stop-cock with which it is provided. During the withdrawal of the fluid from the burette, the original column of fluid leading from the stop-cock to the spinal canal is unaffected. Having withdrawn the desired amount of fluid, the diluted neosalvarsan is poured into the vertical arm of the burette, the three-way stop-cock is turned until the spinal canal and the burette are again continuous. The return flow now follows, the speed of which is regulated by slightly raising or lowering the burette.

The amount of salvarsan used at the initial injection was 0.0003 gm. Two weeks later 0.0004

was used. In three male cases a third intraspinal injection of 0.0006 gm. was given. The female cases have thus far received 0.0003 gm. The neosalvarsan was dissolved in a 0.4% salt solution. The total amount of solution used depends upon the amount of spinal fluid removed and its original pressure. On the average 10 c. c. of salt solution containing the dose of neosalvarsan intended, was found to be a convenient amount for injection. Three cases received both intravenous and intraspinal medication and in these cases the most effect is observed (Nos 5, 6 and 8). In all, fourteen cases received this form of intraspinal medication. Cases 5 and 8 have received three treatments, the others have received but two thus far. None of the cases so treated showed any indication of meningeal irritation. Very slight headaches occurred. The temperature in a few instances rose to 100° per rectum, in this respect differing from the cases in which the Swift-Ellis method was followed. All five cases so treated complained of very severe headaches and dizziness which continued several days after injection. Severe vomiting occurred within a few hours after the injection. Of the two cases that died, one was examined and the meninges were found to be hyperemic. There was also an excess of spinal fluid. In the other case, the fluid drawn just previous to death showed a very marked lymphocytosis and escaped under a great pressure.

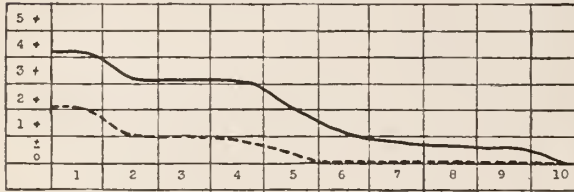
The result of the treatment employed in the cases reported cannot be conclusive at this early date. Clinical changes that have taken place may be but temporary. Swift and Ellis in their report refer to the change in spinal fluid pathology following their method of treatment and lay claim to favorable results on this basis. This change is accepted by many as an indication of improvement and in this report the spinal fluid changes will be offered as an index to the effect of the treatment employed.

Normally the spinal fluid contains cells which are nucleated and termed lymphocytes. Their number does not exceed five per c. mm. In pathological conditions such as meningitis, cerebral syphilis, tabes and paresis, the number of cells is increased, a condition termed lymphocytosis or pleocytosis. The cases here reported all had a lymphocytosis previous to treatment. After treatment this condition was greatly altered in a number of cases. The initial cell count and the count

made after treatment is contrasted in Chart No. 1 and graphically shown in ten cases on Chart No. 1-A.

Pathological spinal fluid shows on excess of its globulin content. This excess can be detected by various tests. In this series the Ross Jones, a

CHART NO. 3.



Graphic representation of "Gold Sol" Test. Solid line represents test made before treatment. Broken line represents test made after treatment. Figures on left margin indicate degree of reaction. Figures on lower margin indicate Test Tubes from 1 to 10.

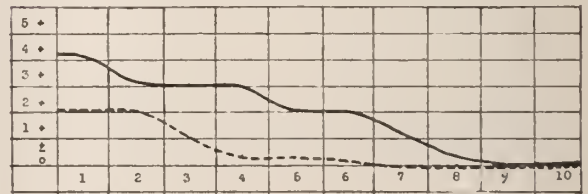
modification of the Nonne-Appelt test, and the Noguchi butyric acid test were employed. The former is the simple floating of spinal fluid on a supersaturated solution of ammonium sulphate. A precipitation ring denotes an excess of globulin. The various forms of meningitis and the late syphilitic conditions under discussion are invariably positive to this test.

The Noguchi butyric acid test serves the same purpose. Two parts of spinal fluid are added to five parts of a 10% butyric acid solution. This mixture is heated and while hot one part of a 4% sodium hydroxide solution is added. After a few minutes, a floccular precipitate occurs in positive cases. This precipitate later settles to the bottom of the test tube. No exact quantitative⁵ reading is possible with this test though degrees of reaction can be designated, such as heavy, moderate and light. The extent to which this excessive globulin was altered as the result of treatment is also shown in Chart No. 1.

At the last National Meeting held at Minneapolis, Dr. Sippy⁶ reported on the so-called "Gold Sol" test. It was found by Lange⁷ that spinal fluid from these late manifestations of syphilis gave a certain reaction when mixed with a colloidal gold chloride solution. The test is performed in the following manner:—A one to ten dilution of spinal fluid is placed in the first of ten test tubes. This dilution is made by using 0.2 of a c. c. of spinal fluid and 1.8 c. c. of a 0.4% sodium chloride

solution. One c. c. of the saline is placed in each of the remaining nine test tubes. One c. c. of tube No. 1 is now mixed with the 1 c. c. of saline in tube No. 2, thus securing a half dilution of the first 1 to 10 dilution. This serial dilution is continued throughout the ten tubes so that finally tube No. 1 contains spinal fluid in the proportion of 1 to 10, tube No. 2, 1 to 20, tube No. 3, 1 to 40 and so on. The final dilution in tube No. 10 being 1 to 5120. Five c. c. of the colloidal gold chloride solution is now added to each of these tubes and the result read after 24 hours. Color changes from complete discoloration to very slight change are indicated in the following manner:—Complete discoloration is represented by 5 plus; pale blue, 4 plus; violet or dark blue, 3 plus; blue red, 2 plus; red blue, 1 plus. We frequently obtain a very slight alteration from the original color not of sufficient degree to be included in those marked 1 plus. We designate this very slight change with a plus minus sign. We have used this test in 120 cases and find it to be invariably positive in untreated syphilis of the central nervous system. On the other hand, the non-syphilitic cases have either been constantly negative or have shown a reaction at another point in the scale. The cases of paresis all gave positive readings of which the following is a fair example:—Tubes No. 1 and 2, complete discoloration (5 plus); tubes 3 and 4, light blue or dark blue (4 or 3 plus); tubes 5 and 6, blue red (2 plus); tubes 7 and 8, red blue (1 plus); tubes 9 and 10, very slight change

CHART NO. 4.



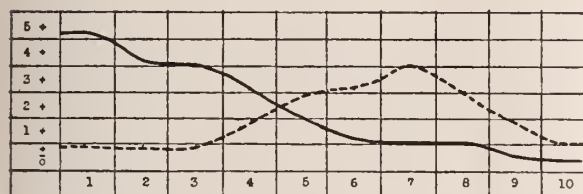
Graphic representation of "Gold Sol" Test. Solid line represents test made before treatment. Broken line represents test made after treatment. Figures on left margin indicate degree of reaction. Figures on lower margin indicate Test Tubes from 1 to 10.

or negative (plus minus or zero). The cases of tubes gave a somewhat similar reading though the reactions were less marked, that is, a maximum of 4 plus in tube No. 1 and the succeeding five tubes showing the range of color to the minimum men-

tioned above. The fluids of this series were examined with the "Gold Sol" test before and after treatment. The results in four cases are graphically shown on Charts Nos. 2, 3, 4 and 5.

Practically no change occurred in the "Gold Sol" test of Case 13, which is shown graphically

CHART NO. 5.



Graphic representation of "Gold Sol" Test.

Solid line represents test made before treatment.

Broken line represents test made after treatment.

Figures on left margin indicate degree of reaction.

Figures on lower margin indicate Test Tubes from 1 to 10.

on Chart 2. This case it will be noted showed very little change in the cell count while the globulin tests and the Wassermann reaction also continued unchanged. The fluids from Cases 1 and 5 showed a very considerable change in the "Gold Sol" reaction following treatment. This change is shown on Charts 3 and 4. These cases had improved clinically and the spinal fluid lymphocytosis was reduced to within normal limits in both cases. The globulin and Wassermann tests were negative.

The "Gold Sol" test shown on Chart 5 is very interesting. The solid line represents the spinal fluid previous to treatment. The broken line represents the fluid taken just before death, this being Case 4 of our series. It will be noted that this case shows an immense increase of lymphocytes and a marked globulin reaction in this second fluid. It will also be noted that the Wassermann reaction was negative. The response of the "Gold Sol" test of this fluid is quite unique. We believe that the patient died of a meningitis which was non-bacterial, probably a pure serous form due to chemical irritation. The spinal fluid from this condition responded in a manner quite similar to that obtained from cases of anterior poliomyelitis.

For the Wassermann examinations made with the spinal fluid and blood serum of these cases, I am indebted to Dr. Karl Smith of the State Hygienic Laboratory. Each fluid was tested before and after treatment and the change brought about

attributable to treatment is shown in Chart 6. Wassermann⁸ has claimed that if the syphilitic infection exists three or four years, it is difficult to remove a positive test. This difficulty is apparently enhanced when spinal fluid is used for the test according to Brem⁹ and others. Neue¹⁰ has confirmed Nonne's findings that cases giving negative results with the usual amount of spinal fluid very frequently give positive findings when twice the amount of fluid is used. Without doubt a persistently negative Wassermann test of the spinal fluid is the most exacting condition called for in a cure of central nervous syphilis.

Grouping all our favorable signs, we find that five patients showed a most pronounced change in the spinal fluid pathology. Case 1, who received the Swift-Ellis treatment, shows a spinal fluid that is completely negative. This is a case of tabes who has also shown some clinical improvement. Cases 5, 6, 7 and 8, all paretics, showed great reduction in cell count and negative chemical reactions with the spinal fluid. In Case 5, the spinal fluid is entirely negative and the patient has shown very marked clinical improvement. These four cases received the dilute solution of neosalvarsan directly into the spinal canal; three of them also received intravenous injections. The remaining seven cases showed relatively little change in the spinal fluid. They are cases well advanced along the course of nerve degeneration and at best little could be hoped for though further efforts will be made along the lines mentioned.

The following conclusions seem warranted at this early date:

1. Intraspinous medication is a simple procedure.

2. The Swift-Ellis method of using blood serum has, in our hands, been very irritating and caused alarming symptoms.

3. The direct injection of a dilute solution of neosalvarsan in doses of 0.0006 gm. in the male and 0.0003 gm. in the female caused no untoward symptoms.

4. The direct use of neosalvarsan has apparently as much effect as the Swift-Ellis blood serum.

5. Intraspinous medication is a valuable adjunct in the treatment of early paresis.

6. The colloidal gold chlorid test (Gold Sol) as used by Lange gave a characteristic reaction in every case of central nervous syphilis.

7. The antisyphilitic measures employed affected the "Gold Sol" test, making the same less positive and paralleling the reduction in lymphocytes and globulin.

8. A case of probable non-septic meningitis gave a reaction with the "Gold Sol" in the higher dilutions.

In conclusion, I wish to express my indebtedness to Professor M. P. Ravenel, to Mr. E. J. Tully and Mr. A. A. Sliwinski of the State Hygienic Laboratory who kindly prepared my original colloidal gold chlorid solution, to Dr. Karl Smith for the Wassermann examinations made, and to Dr. L. M. Brooks for the diligence and zeal with which he assisted in this work.

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DISCUSSION.

DR. L. M. WARFIELD: It seems to me that we have found in this intraspinal medication a new, and apparently a successful method of combating these hitherto hopeless cases of cerebro-spinal syphilis, especially the cases of tabes and tabo-paresis. At the Milwaukee County Hospital we have only been using these methods for a limited time, consequently our results are few. We have not been using the Swift-Ellis method. It seemed to us that the amount of salvarsan that one could introduce into the spinal cord by bleeding a patient an hour after a salvarsan injection and then diluting that serum and injecting that diluted serum into the spinal canal, was so infinitesimal that we thought it would be much more advisable to put the salvarsan directly into the spinal canal in dilute solution.

In order to find out what the dosage of salvarsan would be, we made some experiments, injecting rabbits and dogs with dilutions of salvarsan. It was soon found

out that salvarsan was a tremendous irritant to the spinal meninges. The animals that died showed no evidence of an actual meningitis, but they showed marked irritative symptoms. There was hemorrhage at the site of puncture, and while there was not an excess of spinal fluid, as we thought there would be, nevertheless it seemed to us that the symptoms could be interpreted as death from spinal irritation and toxic irritation. Shortly after we had made these experiments we injected into a case of tabo-paresis, which was very advanced—the man being unable to walk, and suffering with gastrocolitis, a solution of salvarsan which was too strong, we felt, and the man suffered violent pains, and the case did not go on as well as we would like to have had it go. So that we felt that we could not start with too dilute a solution. So whereas Dr. Lorenz is injecting 6/10 of a milligram, I think he said, into the spinal fluid, we have been injecting 4/10,000 of a milligram in 10 cubic centimeters of fluid. We have been also withdrawing the fluid, making the cell count, making the globulin test, doing the Wassermann test, and our few cases I think we can justly say have been very markedly improved. The effect of the Wassermann reaction in the sense of a complement fixation test in the spinal fluid does not seem to me to be of any particular value. It seems to me that the most valuable features of the examination of the spinal fluid are first, cell count, which I would place in front of all the other methods of examination. The next I would say, is the globulin content. That the pressure in the spinal fluid is of any value, I do not believe. The gold sol test we have not tried, but we shall probably try it this winter and see if we can parallel the results that we find with the Wassermann and the globulin tests, as Dr. Lorenz has done. It seems to me an exceedingly valuable and very simple method, and if it can replace the Wassermann in the spinal fluid, and if it does in a diagnostic way all that is claimed, it certainly will be one of the simplest and surest tests that we have of the progress of the case either towards healing, or towards death. I cannot but feel that we have arrived at a new era in the treatment of these cases. I think Dr. Lorenz is to be congratulated, and I think the state of Wisconsin is to be congratulated that we have in our midst a man who can do such careful work under the circumstances and with the opportunities that Dr. Lorenz had. I want to congratulate him on the floor, because I feel that the more men we have coming in who will do that sort of work, the better it is not only for the profession in Wisconsin, but also for the people whom the profession is treating.

DR. W. F. BECKER: Mr. President, Ladies and Gentlemen: I have no first-hand information to give you. I only feel like expressing in some very inadequate way the enthusiasm and the large measure of congratulation that we ought to give ourselves for work that was done in this field in which Dr. Lorenz and Dr. Warfield are such enthusiastic workers. Its bearing, of course, is very great upon the general practitioner and neurologist. It seems that we can do away with the idea of any parasymphilis; that paresis and tabes are now syphilis and not parasymphilis. To be sure the theory of parasymphilis

has done a large measure of service limited to those cases where the clinical symptoms came very much later than the original infection, and there seems to have been good reason for that difference between postsyphilis and parasyphilis. That is even shown now in the effects of the treatment, because I think the treatment by salvarsan does not yield such good results in the parasyphilitic cases and tabes and paresis, as it does in direct cerebral syphilis or post-syphilis. But the returns are coming in very fast, everything looks very favorable to the establishment of a very satisfactory method which will change our pessimism in these cases to optimism. There is probably some good reason why the parasyphilitic cases do not respond so well to the salvarsan treatment as do the direct post-syphilitic cases, and that is probably, as Dr. Lorenz has pointed out, due to the fact that the organized lymph spaces prevent the contact of the fluid with the spirochetæ, to liberate them or to annihilate them. Of course this also serves to make the progress of the disease very slow. It also makes the therapeutics very difficult. I think the lesson in this for us is, of course, that we must treat and make spinal punctures as early as possible, even in the cases that we now so often call neurasthenia, whether there is or is not syphilitic history. There is no doubt a pre-aretic neurasthenia or a pretabetic neurasthenia which passes unrecognized, and in which, if spinal punctures were made, we could find the lymphocytosis, and in which the treatment would certainly be indicated, no matter though it occasionally causes bad results. Because the condition for which treatment is indicated is so serious that certainly we are justified in taking some risks. But it seems to me it is only a matter of better technique, and a matter of selecting the right cases in order to get most brilliant results, so that we might fairly hope that in a fairly short time we shall be prepared to cure, or at least to arrest the progress of paresis and of tabes.

I wanted to ask Dr. Lorenz one question, and that is whether he heats the fluid before he puts it back in the cord, and also how he accounts for the differences in the results of the Swift-Ellis method, for they at first used the direct salvarsan injection and condemned it, and found more effective the indirect method by which the salvarsan was first injected into the veins and then used in the spine. Is the difference in the size of the dose?

DR. G. F. ADAMS: I do not wish to discuss the paper, personally I want to thank Dr. Lorenz and Dr. Warfield for bringing this matter before the Society, and I would like to ask, if it is not out of place, that they would both report to us, I mean the profession of Wisconsin, through the Journal within six months or so, the clinical results they have obtained, if any. If they have not obtained any, we would like it just as well. Do not wait for a year to elapse and have the report at another meeting.

DR. LORENZ (closing): In reply to Dr. Becker's question as to the heating of the fluid, I injected the fluid at a temperature of about 70. I made no particular effort

to heat it. Having in mind Ehrlich's caution not to heat neo-salvarsan, I made the injection at about 70.

Why Swift and Ellis changed, I do not know, other than possibly this fact: They made their experimentation on animals, and it may be that the human does not react as the animal does to the intraspinal injection. I do not believe it is the difference in dose. I do not think that the Swift Ellis method gives as much salvarsan as I have in using 6/10 of a milligram. I do not know how to account for the fact that we got such alarming symptoms, and they report none. We followed their technique carefully. The burette that we used facilitated our work. There was no chance for infection, and as a matter of fact the patients that reacted so violently could not have been infected because the reaction occurred too soon after the injection, within 12 hours or within 24 hours. If it were due to a septic cause we would not have gotten the reaction within that time; so I don't know how to account for the difference.

As to Dr. Adams's suggestion that we make a report within six months, I fear that a report after six months would not be conclusive. I personally waited two years before I reported two cases of paresis that I know, or I believe, have recovered after using neosalvarsan, or at least salvarsan in those days, by intraspinal route. As a matter of fact I waited two and a half years before I dared report a cure. However, personally, I would have no objection to making a report to the Journal, and rather fear I appear there too frequently as it is.

In closing, I would like to give our opinion as to this gold sol. Personally I believe that the test will supplant the Wassermann in so far as the spinal fluid is concerned. It is equally delicate, and if our predictions hold good we will have a test that will be at the disposal of the general practitioner; one which he can very easily perform and requires no particular technique or experience. The solution once made keeps indefinitely. At least we have kept some a long time, and have used the solution, after it has been made two months. So it may be that this gold sol test will be a means at the disposal of the general practitioner to detect syphilis of the central nervous system in the absence of definite clinical signs. I would like to add in closing, that the same relationship, it seems to me, holds good in paresis or in syphilis of the central nervous system—I can draw an analogy rather, between syphilis of the central nervous system, and tuberculosis or cancer, as was taken up by your president. The early recognition of syphilis of the nervous system is the essential fact. If you wait until there is a complete destruction that one commonly finds in cases coming to state hospitals and other institutions, there is no medicine, there is nothing going to help that condition. A nerve cell once destroyed is not going to be replaced by any medicine that you may give individually. But, if you get that condition early you can establish a cure, I believe; and of course the analogy is perfectly obvious. If you wait until consumption is so noticeable that every layman knows it, there is no cure. If you get the patient early, as you well know, it is curable. It seems to me that holds good in syphilis of the nervous system.

THE EFFECTS OF ATHLETIC SPORTS ON THE HEART.*

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The healthy heart is a very adaptable organ. Lewy has shown that the functional activity of the heart increases fourfold during moderate exertion and thirteenfold during severe exertion. But in addition to this functional adaptability the heart has a well marked trophic adaptability. This is shown normally after birth when the left ventricle hypertrophies to take entire care of the systemic circulation. It is shown in the gradual enlargement of the heart which takes place during middle age as the arteries become less pliable and offer more resistance to the blood stream. It is beautifully shown in cases of valvular lesions of the heart.

In the instances just cited the heart is enlarged to take care of a constant stress in excess of what it has before been called upon to meet. But the heart also enlarges to take care of an extra stress which occupies but a part of the twenty-four hours or occurs even less frequently than once a day. Thus it has been definitely shown that the hearts of manual laborers are, as a rule, larger (Schieffer, 1908) and heavier than those whose occupations demand little muscular effort. Külbs (1906) has shown experimentally that the hearts of dogs kept at work on a tread mill are far heavier and larger in proportion to the weight of the skeletal muscles than the hearts of dogs not thus kept at work. Schieffer (1908) has shown that in most instances the hearts of men undergoing military training in Germany enlarge during the year. In most of these cases the enlargement of the heart seems to be "physiological," the functional capacity of the heart is increased without noticeable detriment to its ordinary functions. In case of the soldiers, however, there are some whose hearts cannot stand up under the stress of the training, and it may be that in other instances the ultimate strength of the heart suffers. It is well known that heart trouble is very prevalent among the Tübingen peasants, Cornish miners, and others whose occupations are

severe. The heart enlarges but does not become strong enough to meet the demands made upon it.

The severe strain which athletes put on the heart at intervals stimulates to a greater hypertrophy than is usually found among manual laborers. Thus Schieffer, 1908, found that among bicycle racers who had ridden for some years, the hearts were, on the average, considerably larger than the hearts of manual laborers. Barach, in a study of men training for a Marathon race, found that of the men whose hearts were not much above the average size, none were able to finish the race. Those who finished all had markedly hypertrophied hearts.

Recent study of the effects of muscular exertion has shown that during muscular exertion the pulse rate and blood pressure are both raised. The heart has not only to beat faster but against more resistance. The increased demands for blood, on the part of the body, are met in part by the greater frequency of the beat and, in part, by an increase in the amount of blood expelled at each systole. The latter adaptation, while it calls for more muscular energy, has the advantage of making a somewhat longer diastole possible and thus offers more opportunity for supply of blood to the heart muscle. Fatigue is thus somewhat postponed, but if extreme exertion is persisted in the cardiac muscle may be so weakened that it will stretch more during diastole than it can contract during systole. The heart thus becomes dilated. If the dilatation is extreme, the typical symptoms of acute dilatation may intervene. Recovery may sometimes apparently take place within a few hours or days. In other cases a permanent injury is clearly to be followed. In cases where the heart is frequently subjected to overstrain and where compensation is fairly good in spite of dilatation, the heart wall hypertrophies and we have a typical hypertrophied and dilated heart, frequently with signs of mitral insufficiency.

Today I desire to give a brief report of the work recently begun at the State University by Drs. Shumacker and Middleton on the study of the effects of athletics in high school and college on the heart. A full report of the first part of this work will shortly be published in the Journal of the American Medical Association. The results so far obtained are briefly summarized in the following tables:

In Group I, Table I, are summarized the find-

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ings in thirteen healthy young students who have taken no part in the severer athletic sports. The pulse rate at rest, sitting, averaged 80, and after fifty running steps 107, an average rate of increase of 34%. The systolic blood pressure at rest, sitting, averaged 117, the diastolic pressure 73, the pulse pressure 44.

In Groups 2-5 are summarized the findings in thirty-six men active in college athletics who gave no history of any condition other than athletic sports which could account for cardiac lesions. No

crease of 20, 24%. The hearts of these men were therefore less easily excited to rapid action than those of non-athletes. The systolic pressure was 122, slightly higher than the average obtained for non-athletes (not enough difference to mean much considering the number examined). The difference in diastolic pressure (90 as compared with 73) and pulse pressure (32 as compared with 44) is, however, probably significant. In all athletes examined the diastolic blood pressure was relatively high.

TABLE I.
Pulse rate and blood pressure in college athletes.

GROUPS	AVERAGE RESULTS					
	PULSE RATE			BLOOD PRESSURE		
	Before Test	After Test	Per Cent Increase	Diastolic	Systolic	Pulse Pressure
I Control (13 cases)	80	107	34	73	117	44
II Athletes with "normal" hearts (3 cases)	83	103	24	90	122	32
III Athletes with large hearts and slow pulse (10 cases)	61	81	32	94	126	32
IV Irritable hypertrophied hearts (11 cases)	77	115	50	99 8	135 3	35.5
V Hypertrophied hearts, Systolic murmurs before and after test (12 cases)	81	112	33	83	115	32
VI. Acute Dilatation a. One year before test	72	84	17	95	122	27
b. Three months before test	100	135	33	99	121	22

attempt at selection was made other than to pick out men free from a medical history which might have affected the heart. As many of the more prominent college athletes as could be conveniently reached last spring were invited to submit to simple tests along the lines given above for non-athletes. About three-fourths of the more prominent college athletes responded. Only those are tabulated who had taken part in the severer sports in college: crew, football, basket-ball and track.

Of the thirty-six men examined three, 8.4%, had slightly hypertrophied but otherwise apparently normal hearts. The pulse rates before and after the test were, respectively, 83 and 103, a rate in-

In Group 3 we have summarized the results found in 10 athletes with greatly hypertrophied hearts, slow pulse rate (averaging 60.6 at rest), an increase in pulse rate in response to moderate exercise about like the normal heart (32%), a high diastolic pressure (94) and a low pulse pressure (32). As a rule the systolic pressure was not high although in one case it was 146. In two cases there were mitral murmurs after exercise. The individuals in this group represent the best athletes in college.

In Group 4 we have a summary of 11 cases of "irritable" hearts. The individuals in this group all had enlarged hearts, the rate of beat of which

jumped up 50% after moderate exercise. Both the systolic and diastolic pressure were relatively high, especially the latter. Such hearts evidently do not adjust themselves so readily to muscular exertion as do those in the former group. Some will, however, perhaps hypertrophy more and get at least a temporary greater stability. Others probably will pass over into the following group.

In Group 5 there are placed twelve athletes whose hypertrophied hearts gave distinct mitral murmurs before and after the test. The pulse rate increased after moderate exercise somewhat more than in the

college athlete is, as a rule, mainly developed in college. About five per cent. of the high school boys who come to Wisconsin have a cardiac hypertrophy attributable to athletic sports. But the star high school athlete, less frequently than is commonly supposed, develops into the star college athlete. In some instances the heart has been somewhat seriously injured in high school athletes so that it is not strong enough for the strain of college sports. In other cases there seems to be a lack of vigor.

In Group 1, Table II, are given data concerning

TABLE II.
Pulse rate and blood pressure in college athletes out of training for some years.

GROUPS	AVERAGE RESULTS					
	PULSE RATE			BLOOD PRESSURE		
	Before Test	After Test	Per Cent Increase	Diastolic	Systolic	Pulse Pressure
I High School Athletes (a.) Fast pulse. Murmur before test (2 cases)	80	138	73	91	145	54
(b.) Slow pulse. Murmur before and after test in one case (2 cases)	63	93	33	90	119	29
II Old College Athletes (a.) Irritable heart systolic thrill	78	110	41	77	116	39
(b.) Mitral murmur before test	88	?	?	78	104	26

normal individual. The systolic pressure was about normal, but the diastolic pressure was relatively high, although not so high as in the cases where the valves were intact. The athletes in this group are capable of going through severe contests, but probably not without some danger of inciting serious cardiac trouble.

In Group 6 are summarized the results found in two athletes who had suffered from acute cardiac dilatation, one a year before, the other three months before the test. In the former case the chief abnormality was the high diastolic pressure; in the latter case, in addition to a high diastolic pressure, there was a high pulse rate at rest, and a considerable jump in rate after moderate exercise.

The cardiac hypertrophy characteristic of the

four students who had overstrained the heart in high school athletics but had spent several years in college without taking part in severe competitive sports. In three cases there were mitral murmurs before or after a test of fifty running steps. In two cases there was a high pulse rate with a marked increase after exercise, and a high blood pressure. In two cases the pulse was relatively slow, the increase in rate after exercise was about normal and the diastolic pressure was high.

In Group 2, Table II, are given data referring to two students who had been college athletes several years before the test. In one the chief abnormal features were a systolic thrill and a marked increase in pulse rate after fifty running steps. In the other there was a mitral murmur before the

test and there were a relatively low systolic pressure and pulse pressure but otherwise normal conditions.

From the data presented it is clear, I think, that severe athletic contests cause marked cardiac hypertrophy in individuals who are strong enough to take part in them. The cardiac hypertrophy gives greater capacity to stand prolonged severe muscular exertion, but is usually associated with some signs of functional disturbance. About the ultimate result in the life of the individual of an athletic heart acquired in youth we know little. For ordinary vocations and avocations an over-large heart can be of little use. Unless it is kept exercised it will assuredly undergo a detrimental retrograde metamorphosis. Furthermore, most pathologists believe that the musculature of an hypertrophied heart is always somewhat diseased and less resistant than that of the normal heart. The degree of myocarditis varies in different individuals.

The hypertrophied heart is more liable to acute cardiac dilatation than the normal heart. At the state university, during the past two years, there have been four cases of acute dilatation in athletes and only one in the non-athletes, although relatively few students take part in the major college sports. In case of severe fever these large hearts seem to be especially vulnerable. In the graduates from Annapolis it has been found that there are six times as many deaths from heart disease among athletes as among non-athletes. If physical training is to be made compulsory in our schools and violent athletic contests are to be incited by crowds and publicity, a serious duty devolves upon the medical profession to study the results carefully and, in case of each individual youth, to supply that balanced judgment concerning the value of various kinds of physical exercise which only those can have who follow human life from the womb to the winding sheet. The physical trainer has his hands full in endeavoring to teach grace and skill in bodily movements. We should no more expect him to be deeply skilled in medical science and medical judgment than we can expect the expert physician to be an expert in teaching skill in the use of the muscles. The medical profession must insist that the public does not confound physical training, an excellent thing in itself, with personal, preventive medicine, which is quite a different thing. At the state university this is recog-

nized. The department of clinical medicine has charge of the medical supervision of student health. It is distinct from the department of physical training with which, however, it endeavors to cooperate in promoting the welfare of the students.

TRAUMATIC NEURASTHENIA AND MALINGERING.*

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Traumatic Neurasthenia, that is Neurasthenia arising out of and consequent upon an injury, whether it be caused by general bodily concussion, by local injury of the person, or by fright, is a definite entity, characterized by a group of symptoms referable to the brain, the spinal cord or the general blood circulation and we understand it to be a condition of exhaustion in the general nervous system. It is as different from malingering, as day is from night and to the trained eye it is impossible of confusion.

A malingerer is a cheat. He is devoid of moral sense. He is never scientific and therefore is incapable, even with coaching by unscrupulous medical men, and there are such, of deceiving an expert.

We arrive at a diagnosis by a process of exclusion. We have well ordered methods of examination designed to check up attempts at deception and we have definite tests which control our conclusions.

We must distinguish between the malingerer, however, and the man who exaggerates his symptoms. In dealing with the ignorant and those who by temperament are neurotic, we must expect a more severe reaction of the nervous system. The pain they suffer is definite, localized and disturbing to the mind and they are incapable of reasoning as a more intelligent person would, that the pain is transitory and merely the expression of a local insult. To this class of persons pain is terrifying and under no conditions can they be persuaded to use the afflicted member.

Let us recognize then that an injured workman is not necessarily a cheat or intending to deceive, if after a comparatively trivial injury he picks up his coat and dinner pail and starts for home.

*Read before the Medical Society of Milwaukee County, September 12, 1913.

Under the protection of the Industrial Commission he will do it more often than formerly. He no longer fears for the permanency of his employment as formerly. But the great majority of our workmen are made of sterner stuff and I have erred on the safe side, in taking men from the bench, by insisting that minor wounds should have surgical care as a first aid to the injured; believing as I do, that intelligent first aid to the injured will greatly lessen the burden to both the employer and the workman.

Here and there in a large factory we find a hard customer to deal with, but we recognize that we are dealing with human beings and that while a few of them are yellow dogs, we are glad that they average up as well as they do.

It is a matter of common knowledge that cripples and defectives are poor risks. I formerly wondered that this class of labor was not more anxious about its employment. They seemed incapable of appreciating the fact, that their misfortune was a bar to their employment except when labor was at a premium. I have learned to be charitable to these people because I have come to a realization of the fact that they are incapable of appreciating their defects. They are more susceptible to injury because of their defects and they fare far worse than normal individuals because of their infirmity.

Should we not take into consideration these facts, when we are prone to consider them as malingerers. Is it not possible that their nervous system reacts far more acutely than we conceive possible under all the circumstances of the case and is not their very indifference a sign of a loss of mental balance that in itself is suggestive and instructive.

The true malingerer is at once dangerous and cunning. He is usually found among the class of adventurers. There may be and probably are individuals in every walk of life who profit by their wits. However, we find them usually among a class who rove the country over. Actors and actresses are frequent offenders when down on their luck. The statutes in some of the Eastern States which provide a proper penalty for perjury, have effectively dealt with this class. Every railroad corporation of any considerable size has been victimized more than once. We are not deceived always by any means, but the circumstances surrounding the alleged accident are sometimes so carefully planned that it is as a matter of policy,

the lesser of two evils to at times effect a settlement. Attorneys who make a business of personal injury claims are not above making a state of facts, which sends the case to the jury in the event of a trial, and doctors are found quite ready to swear to any state of facts the attorney may suggest. These are exceptional cases; but we know of the practice and we also believe that the Courts are not always blind to what is going on. When a man or woman gets this habit it is a difficult one to break as the record of repeated attempts in various parts of the country clearly shows. Let me cite a case:

A man 45 years old was riding on an open car. He sat on the outside of the seat and was noticed by the conductor to be bending over forwards as though sick. The car stopped on a signal from him and as he stepped off, the handle on the side of the seat came off and he fell backwards and was picked up unconscious with the grab-handle in his hand. I examined him at the hospital shortly thereafter and he was apparently unconscious though showing none of the usual symptoms of concussion of the brain. He was put to bed and the following morning was perfectly conscious but could not hear. A conversation was carried on in writing and to my surprise he knew all about what had happened to him. He described the car and the handle and informed me that as a result of this fall on his head he had lost his hearing.

Now this fact made me immediately suspicious of him, because, when a person falls on the head and is rendered unconscious, he never remembers the events which immediately precede his unconsciousness. This you may believe as an established fact. I examined a man many years ago who fell six stories in an elevator. I asked him what thoughts passed through his mind when he was going down the shaft. He said, "Thoughts? Why I was going up in the elevator and was going to get off at the sixth floor and the next thing I knew, I woke up in the hospital." Well, I examined the man's clothing and in an inside pocket found a screw-driver wrapped in a piece of newspaper. I noticed, however, that the screw end was bare as was also the upper part of the handle. I had the car examined and we found that of the three screws, two had undoubtedly been removed while the head of the third had been broken off.

With this information I returned to the hospital and was told by the nurse that the man had

lost a lot of cerebro-spinal fluid through his left ear. The pillow was very wet with it. If he had lost an amount sufficient to saturate the pillow as this was saturated he would be dead. He had drunk water and let it run out of the side of his mouth on the pillow.

I sat beside him and told him without the trouble of writing to him, that I had found the screw-driver. That we knew that he had removed the screws with it. That I knew he was not deaf and if he would get up at once and leave town I would let him go. He said he would and he did.

The neurasthenia we are interested in is that described in the definition I stated at the beginning of this paper: Neurasthenia induced by the shock of an injury.

I said it was an entity—its characteristics are as distinct as the signs of a fracture of the leg. There is nothing mysterious about it. Its phenomena are not yet thoroughly explained, but we know much about it. It is not a disease, it is a condition of exhaustion in the general nervous system. Its symptoms vary widely in different cases because the fundamental characteristics of each individual are determining factors. This fact should be taken into consideration more frequently than it is. When a case comes up for settlement, the present condition is usually assumed to be the sole result of the accident. The fact is, as I have suggested before, that not everybody develops neurasthenia, but only those who are predisposed to it by their personal history; and not infrequently neurasthenia is already present when the accident occurs, but is unrecognized. Now in order to make clear what this condition of exhaustion in the general nervous system is, I will quote briefly from an authority, M. Allan Starr:

“Every act of mind or body is attended by certain chemical and physical changes in the cells of that part of the nervous system controlling the act. These go on for a time within physiological limits without harm. But if continued beyond these limits, they result in exhaustion of the cells, giving rise to uncomfortable sensations of fatigue and inability to continue work. The initial state of these cells, their degree of development, their inherent strength; and their state of nutrition determine the limit of their endurance; for what is healthy effort to a strong man may be impossible overstrain for a weak one. The condition of exhaustion may be rapidly or slowly compensated

for in different conditions or in different persons; the capacity for recuperating differing widely. But it is probable that permanent changes are rarely produced in cells by work and that a return to a normal state is the rule when sufficient rest is given.”

Now traumatic neurasthenia does not differ, except in name, from ordinary neurasthenia. By physical examination without the history of an injury it would be impossible in an average case to distinguish between them. The principal difference is that in the traumatic form the patient gets his neurasthenia in a lump, while in the ordinary neurasthenia he develops it more gradually.

It is important in order to obtain a clear understanding, to remember that it is always classed among the functional disturbances of the central nervous system. No nerves are severed. No brain tissue destroyed. Temporary confusion occurs in the normal working of the central nervous system because of exhaustion of its cells. Let me illustrate:

A business man of nervous temperament in middle life is a passenger on a railroad train. He is comfortably seated in the car when he suddenly notices the momentum of the train checked, by the sharp application of brakes. He is at once on the alert, expecting something is about to happen. His muscles are in a state of contraction; a violent shock occurs and he is thrown to the floor. In a few minutes all is quiet and he regains his feet; the intense excitement preceding the collision gives way to a condition of exaltation of the mental faculties. He has no demonstrable physical injury. He assures you that he is not injured and appears anxious to get away from the scene of the accident. He talks rapidly, is in an affable mood and he congratulates himself upon his escape from serious injury.

We follow this man to his home. An hour later a different picture presents itself. The man is quiet, the exaltation of the mind has disappeared, he is overtaken by a feeling of fatigue. He becomes conscious of pain in various parts of the body. He is nauseated. He perspires freely. That night he is restless. The next day he has headache, his tongue is coated, he complains of pain in the small of the back, between the shoulder blades and at the base of the skull. He is noticeably irritable; he becomes anxious about his business affairs. The assurance of the previous day gives way to despond-

ent fear that he is seriously injured and that his condition is becoming progressively worse.

Now, what has happened to this man? Why, his general nervous system went through a storm.

Dr. Starr tells us that "Every act of mind or body is attended by certain chemical and physical changes in the cells of that part of the nervous system controlling the act."

Prior to the accident the central nervous system was controlling every organ of the body in perfect rhythm. The shock deranged this rhythm. The processes of digestion were arrested. The glandular secretions were altered. The food in process of digestion was so altered chemically that it became a toxin. Auto-intoxication followed its absorption. A thunder storm sours the pan of milk in the farmer's pantry; as surely does a nervous shock sour the contents of the intestinal tract.

Neurasthenia then is the term given by medical writers to the train of symptoms that the shock of an injury sets in motion. It requires no argument to convince one that an organic change in the nervous system does not take place, because this train of symptoms may be set in motion by a simple fright without the slightest physical injury. Personally, I have many times felt that in a serious accident the emotions played the chief part in the tragedy. It is the fear of impending death that produces the shock. This emotional disturbance followed by a physical injury to the head and back, sets in motion, through a storm of the nervous system, a chain of symptoms; and the result is a disordered digestion, irregularity of the circulation, loss of sleep, pains of every possible description in every portion of the body, mental unrest, general anxiety and an absolute inability, for the time being, to control the will.

If, instead of accusing these victims of malingering or even of exaggerating their symptoms, we would recognize the fact that they are sufferers; that they need encouragement; that they need rest and moral support; we would do much to alleviate their suffering and hasten their recovery.

Neurasthenics are clinging vines. The assurance of the doctor from day to day that he sees improvement; his willingness to listen to their tales of woe; his interest in their progress toward recovery; these are factors of the greatest value.

Until one has had a serious injury himself or has undergone a serious operation, he is incapable of understanding the sufferings of these victims.

That they recover in the majority of cases at the expiration of a few weeks or a few months, is the experience of every one who has written on this subject. Some do not recover because of previous bad personal history, or bad inheritance or because of an unusually severe localized injury.

I recall a case of this character in a conductor who was incapacitated by being thrown backwards over the seats of a car which collided with a heavy snow-plow. This man resisted all treatment, had few of the usual neurasthenic symptoms, but had a most marked and definite spasm in the great muscles of the back.

Were it not for the fact that traumatic neurasthenia is such a hopeful trouble, most of us who have to listen to these tales of woe would change our occupation.

As I sometimes listen patiently to these neurasthenics describing in painful detail their experience since my last visit, I am glad that with a clear conscience I can tell them that while their sufferings are painful and distracting, I can assure them of their ultimate recovery.

I know there are gentlemen in our business who have little faith in the diagnosis of neurasthenia, but I can say to them from personal experience, that when you lie awake in bed at night listening to your heart thump as though it would jump out of your chest; with a sharp pain between the shoulder blades and in the small of the back that makes turning a matter of difficulty; when you find yourself unable to keep your attention on matters of business; when you find yourself constantly irritated by little things that would ordinarily cause no annoyance; when you find you are peevish and that a cold sweat is running down your back and your hands are clammy and you have no joy in life; then I say to you, you have neurasthenia.

It has been an expensive malady for the corporation but it has also brought suffering to many who have been injured. Its usual course has been misrepresented and the uncertainty of its recovery as to time in weeks and months, has furnished abundant food for speculation to lawyers in their pleas before juries. Its very nomenclature suggests uncertainty and mystery.

After twenty years of careful investigation into this subject I can assure you that almost without exception, neurasthenics, who are such as the result of an injury, will recover under proper suggestion.

It is not the money they receive that effects a cure. It is the relief from anxiety of the debt that had been incurred by reason of their inability to work, and in my experience a satisfactory adjustment of their claims is a great factor in the recovery; but it is neither the cause of the recovery nor is the recovery itself a confession, per se, that the claimant was a malingerer.

FRACTURE OF THE SKULL.

A REPORT OF SELECTED CASES AT THE MILWAUKEE COUNTY HOSPITAL.

BY LOUIS M. WARFIELD, M. D.,

MILWAUKEE.

There are many diseases which are of especial interest to several branches of medicine. Fracture of the skull is one of the most interesting and important of these, and is of interest to the internist, to the surgeon, to the ophthalmologist, to the neurologist, to the psychiatrist. We have had a few cases at the Milwaukee County Hospital which have taught us valuable lessons. These are here collected and commented upon. Our mistakes and our correct diagnoses will be impartially related. It is from our failures that we have learned to pass careful, critical and correct opinions.

Fractures of the skull are common injuries. The skull is a highly elastic box, buttressed by certain rather well-defined anatomical structures, the weakest point of which seems to be the base at the sella turcica. The foramina do not seem to be a factor in causing the basal weakness. A blow on the skull sufficiently severe causes a sudden depression at the point struck and this must be compensated for by expansion of some other part of the skull. The lines of radiation tend to run by the shortest route to the base. The very elasticity of the skull causes it to give way at a weak point, to burst asunder. Since blows are usually on some part of the vertex, the bursting takes place at the base and the line of fracture passes through the nearest fossa, usually the middle fossa. Of course all fractures of the skull do not implicate the base. The force and direction of the blow, together with the thickness of the bone at the point struck help to determine whether the fracture is a linear one on the vault, a depressed one, in which the inner table projects into the brain, and whether it is compound, comminuted, etc. The fact remains that we must give up our conception of fracture by *contre coup* and look upon fractures of the base as

those due to sudden change in form of a hollow, highly elastic body which has a tendency to burst at its weakest spot, viz., the base. Fractures of the base then are best described as bursting fractures of the skull.

The meningeal artery, branching a short distance from its entrance into the skull through the foramen spinosum of the sphenoid bone into an anterior and posterior branch with numerous secondary branchings, is firmly attached to the dura, so that it usually adheres to the dura when the bony skull is removed and it lies beneath an extradural hemorrhage. One of the branches of this artery is frequently torn in fracture of the skull. The hemorrhage is then usually between the dura and the bone, the dura being peeled away from the bone as the bleeding advances. Not infrequently the hemorrhage is beneath the dura in the arachnoid space where the blood is in free communication with the cerebro-spinal fluid and is found in the spinal fluid when lumbar puncture is performed.

The brain fills the cranial cavity and is as incompressible as water. A blow on the head jars the brain and if sufficiently severe actually compresses it. The result of this bruise (concussion) may be punctate hemorrhages throughout the brain substance, particularly seen in and near the basal ganglia, or it may even be actual laceration of the tissues (contusion) with consequent bleeding into the brain from the torn vessels with resulting tissue destruction. Edema of the brain commonly occurs. Cannon considers this to be due to changes in osmotic tension between the damaged endothelial cells of the blood vessels and the surrounding brain substance. Any one of these processes introduces into the cranial cavity a foreign substance, the brain is compressed and the symptoms resulting from either concussion or contusion may become those of compression and dominate the clinical picture. It is to the symptoms of compression that I desire especially to call your attention.

By a carefully planned and ingenious series of experiments, Cushing was able to observe the vessels of the brains in dogs while compression was applied directly to the cranial cavity. He trephined the skull near the longitudinal sinus, exposed this and a portion of the convolutions adjacent. The dura was incised and a glass window was accurately fitted into this opening through which he could actually observe the results of com-

pression made by inserting through another trephine opening an accurately fitting tube on the end of which was a thin rubber bag filled with mercury and attached by a tube to a vessel of mercury. As the tube was raised and lowered the rubber bag distended and exerted pressure against the brain. On a kymograph he made simultaneous tracings of the cerebral pressure and of the arterial pressure from the femoral artery.

Briefly summarized, he found that the first result of cerebral compression was a blanching of the veins beneath the glass window. This was soon followed by a return of the blood but *the arterial pressure had been raised*. Upon releasing the intracranial pressure the blood pressure returned to normal. The arterial pressure was always higher than the intracranial pressure, and if the pressure in the brain was not carried too high or kept up for too long at a high level, he could over and over again repeat the rise and fall of arterial pressure. A slowing of the heart rate was observed if the pressure upon the brain was too suddenly made. This was a vagus inhibitory action and was not produced when both vagi were cut. The respiratory rate was sometimes slowed and might, when the intracranial pressure was high, assume the Cheyne-Stokes type. At a high level of pressure in the brain regular waves occurred in the arterial tracings, the so-called Traube-Hering waves. These were to be explained as follows: Pressure on the centres in the medulla caused anemia. In an effort to supply blood to the brain the arterial pressure rose. As soon as blood was supplied there were respirations, which during the period of severe anemia had ceased. The call for blood in the brain ceased for the time being, the blood pressure fell slightly, the respirations ceased, again there was anemia, again a rise of blood pressure, and so on for hours at a time.

The stimulus for the increased blood pressure came from the anemia of the vital centres in the medulla. The splanchnic vessels were seen to contract, the vaso-motor mechanism thus shunting blood where it was imperatively needed, and the pressure rose. Whether the vaso-motor fibres in the vessels of the brain, now proven to be present, played some part is probable but not demonstrable.

A fatal degree of intracranial pressure caused exhaustion of the vaso-motor centres, fall in blood pressure, rapid pulse and cessation of respiration. If artificial respiration were instituted the heart

could be kept beating in the same manner as an isolated mammalian heart can be kept beating by perfusion. In this connection I recall one of Dr. Cushing's patients in whom by artificial respiration we kept the heart beating for twenty-three hours after natural respiration had ceased and the patient was really dead.

What happens in man's brain when it is compressed by a foreign body following an injury, is the counterpart of what occurs in dogs' brains experimentally compressed.

A further and most important sign worked out very completely by Cushing and Bordley, is edema of the optic disc; what they term "choked disc" a free translation of the *Stauungspapilla* of the German writers. M. Gunn in an elaborate article recognizes at least five stages of swelling of the disc from the beginning slight haziness of the nasal margin through various degrees of swelling to complete optic atrophy. It would lead us too far to discuss this question fully, suffice it to say that Cushing and Bordley look upon the choked disc as a mechanical process due to pressure exerted by the cerebro-spinal fluid along the sheath of the optic nerve. The retinal veins become compressed, appear tortuous, later there is swelling of the disc and edema of the retina. This explanation is now generally accepted as the correct one and the old term, optic neuritis, has been dropped as it implied an inflammation of the disc. This sign cannot be too much emphasized. It occurs in about 80 per cent. of cases of acute compression and usually is greatest on the side of the foreign body, hemorrhage, etc. In edema of the brain following injury both discs may be equally affected.

The state of the pupils does not seem to be of any great value. Statistical studies have failed to show that the equality or inequality, reaction or lack of reaction, enable us to gain any data as to the position or extent or prognosis of the injury to the brain. This does not mean that no attention should be paid to the state of the pupils in a suspected cranial injury. It means that less stress should be laid on unequal pupils than was formerly taught.

It is convenient to recognize Kocher's four stages of compression bearing in mind that it is not a sharp distinction of definite types:

1. Stage of compensation in which there is slight compression of the veins and symptoms of headache, possibly vomiting, dullness with pos-

sibly focal symptoms. The pulse, respiration and blood pressure are little, if at all, affected. The pupils may or may not be asymmetrical. The retinal vessels are little or not at all engorged.

2. Beginning failure of circulatory compensation characterised by considerable compression of the veins with symptoms of severe headache, vomiting, vertigo, delirium or stupor. The blood pressure is raised, the respirations are not much changed and there is marked engorgement of the retinal veins with or even without choked disc.

3. Height of evident compression characterised by evident pressure upon the medullary centres with symptoms of coma, incontinence of urine and feces, abolition of reflexes, stertorous or Cheyne-Stokes breathing. The pulse is slow, full, and bounding with rhythmic variations in force and frequency. The stupor varies in intensity. The discs are choked, there is edema of the retina, and retinal hemorrhages are common.

4. Stage of paralysis in which the symptoms above become more pronounced, the pupils usually are dilated and do not react to light. The pulse becomes rapid and weak, the blood pressure falls and respiration ceases.

It has been shown particularly by Crile and Dolley that anemia of only comparatively short duration damages the nerve cells in the cortex, especially the large Purkinje cells. We know that no nerve cell deprived for long of its nutrition can return to its former functional state. There is no regeneration of nerve cells. Cognizant of these fundamental facts it becomes absolutely essential to relieve the compression in the brain at the earliest possible moment after the diagnosis is made. We have much statistical evidence based on records of many years ago, to show that fractures of the skull are not necessarily fatal. There are about 40 per cent of recoveries if left alone. We do not know how many of the recovered cases suffered later from various psychoses even to actual insanity, but there is sufficient evidence at hand to warrant the belief that the number is not a small one. The mental defect may come on several months after the patient has seemed cured, in the form of inability to remember things as well as before the accident. From this to the various grades of mental incapacity is the lot of others. Not only is it then imperative for us to attempt to save the individual from the immediate effect of the injury but we must look further so that we may save him

from the truly pitiful sequelae which may follow when compression is allowed to go on for days before we interfere to relieve it. This does not mean that every case of fracture of the skull should at once be decompressed (we do not operate on every case of acute appendicitis, thanks to the internist) but it does mean that we, as practitioners, should be able to judge when to interfere surgically and to relieve compression, and when to let the patient alone on his back in bed with an ice-cap to the head.

Venesection is always contraindicated. If our ideas in regard to cerebral compression are correct, and we have every reason to think that they are correct, then we do not want to take blood away from the body but we want to force blood into the cranial cavity. By abstracting a pint of blood we make it all the more difficult for the vasomotor center to contract the splanchnic arterioles and for the heart to pump sufficient blood to the brain cells.

Let us now relate several cases which illustrate phases of the subject.

Case I. J. K., Hosp. No. 8602, a laborer, white, 40 years old, was admitted to the Milwaukee County Hospital on Oct. 3rd, 1910, in a semi-unconscious condition, talking incoherently. No history could be obtained from him and no one of his friends came to see him so we never knew how or when he was injured. There were bruises on his face and an infected scalp wound over the right parietal region in which were several silk sutures. The scalp had not been shaved. The pupils were equal and reacted to light and accommodation. The patella reflexes were active and equal.

Examination of the lungs, heart and abdomen was negative. The systolic blood pressure was 175mm. Hg., and there were bilateral choked discs. On Oct. 5th an incision was made through the right temporal muscle. On exposing the bone there was found a fracture apparently extending to the middle fossa. A trephine opening revealed a blood clot between the dura and the bone. About 60cc. of dark clotted blood was scooped out, rubber drains were inserted and the patient taken back to the ward at 11 A. M. He was in a condition of grave shock. Pulse 35-38 to $\frac{1}{4}$ minute, soft and compressible. Blood pressure 90mm. He was given subcutaneous infusion of salt solution containing adrenalin. At 1 P. M. the condition was about the same. Fifteen minims of 1-1000

adrenalin solution were injected into the vein. In less than one minute the pulse was stronger but rapidly became weak again. In 15 minutes blood pressure was 100mm. At 2 P. M. he was a shade better. Adrenalin was again injected into the vein. At 2:30 P. M. blood pressure was 108mm. The foot of the bed was then elevated on blocks 9 inches from the floor. Within ten minutes the blood pressure was 120mm., respirations were quiet, and the general condition seemed better. Next morning he was decidedly better. He had received further doses of adrenalin and a few hypodermic injections of strychnin sulphate. The scalp wound was evidently infected. There was fever up to 103° F. The optic discs were still choked, the left one being the more choked.

On Oct. 8th we attempted to clean up the lacerated wound on the side of the head. The necrotic tissue was cut away, the wound swabbed with Tr. iodine. An incision to the skull did not reveal any fracture at this point.

On Oct. 13th the drainage tube was removed from the operation wound. The wound was badly infected, evidently from the lacerated wound. This was healing. The patient was noisy, talked incoherently, occasionally appeared to answer a question rationally. He had involuntary urination and incontinence of feces. The pulse was of fair quality. He ate very little. There was fever.

By Oct. 22nd the infection in the scalp wound was clean and by Nov. 10th all the superficial wounds were healed. The patient was then up and around but was mentally confused. He only rarely answered a question intelligently. At times he was so noisy and uncontrollable that he had to be kept in restraint.

On Dec. 1st he was transferred to the Asylum for Insane. The eye-grounds were normal, the blood pressure was 130mm.

While in the Asylum he was in about the same condition of mental confusion until Dec. 20th when he had a partial convulsion of the left side followed by rigidity of the arm and leg with increased knee-jerk. He was unconscious. He had several partial convulsions in the days following this, pneumonia developed, and he died suddenly Dec. 27, 1910.

When the calvarium was removed at autopsy the brain was found to be soft and congested. Over an area about 6cm. in diameter directly beneath the trephine opening, the brain was dark brown and necrotic. The finger at once broke into a cavity

full of thick yellow pus. This cavity occupied the site of convolutions in the temporal and frontal lobes and communicated with the lateral ventricle. The basal ganglia did not seem to be involved. The cavity was lined by a thin shell of cortex. There was pus also in the left lateral ventricle and in the interpeduncular space and around the base of the cerebellum.

In this case there was a fracture apparently through the middle fossa which was exposed at the operation and later found at autopsy. There was no wound there however. The laceration and evident wound were posterior and above this point. Both discs were choked, the left the more choked and the blood pressure was high. We went in on the right side in spite of evidence from the greater choked disc on the left side, because we felt that the lacerated wound was probably the point from which the fracture took its origin. We did not wish to trephine too near this already infected wound so we made our opening at the site of pre-dilection for a decompression, viz., beneath the belly of the temporal muscle. We found a fracture and an extradural clot. One of the small branches of the meningeal artery was torn. In spite of care the wound became infected due undoubtedly to the close proximity of the infected scalp wound and to the patient's restlessness. The abscess which developed in the brain destroyed the brain substance as it grew so that no further pressure symptoms appeared, but irritative symptoms finally dominated the clinical picture.

This case also illustrates one of the worst sequelae of prolonged intracranial pressure, mental derangement amounting to insanity.

It is most difficult to judge in some cases whether or not decompression should be done. My own feeling is that with a history of injury to the head and indefinite signs of intracranial tension, it is better to give the patient the benefit of the doubt and decompress provided there are facilities for performing the operation. That it is not always necessary to decompress the following case will show.

Case II. Fracture of skull (?); commotio cerebri and edema of brain; symptoms suggesting tuberculous meningitis; normal eyegrounds; fever; leucocytosis; hypertension and alternating periods of coma and consciousness; complete recovery.

A. F., Hosp. No. 9667, a white woman, 34 years old, was admitted to the Milwaukee County Hos-

pital on May 30, 1911, complaining of headache. She was somewhat dazed and stupid on admission but gave a history of a fall from a stepladder two weeks previously. She struck her head on a table and was unconscious for two hours. She then went back to her housework but was somewhat dizzy and has had a continuous headache since the accident. The bowels have been constipated and she has had frequent urination. Physical examination was negative. There was no evidence of injury to the head. There was marked dematographia.

For several days she sat up in a chair, seemed to be conscious, but could not walk without assistance. The bowels were obstinately constipated and urination was involuntary. On June 2nd the eyegrounds were examined, but except for a small elevation in the retina $\frac{1}{2}$ disc diameter above and to the nasal side of the left disc which was thought might be a tubercle, there was nothing found. The systolic blood pressure was 185mm. Hg., the diastolic 115mm. The question arose whether we were not dealing with a case of tuberculous meningitis.

On the 4th she became more and more stupid and passed into coma. There were twitchings of muscles of left forearm. The pupils were unequal, the left the larger. There was some stiffness of the muscles of the back of the neck and of the arms with a probable slight ptosis of the right eyelid. Kernig's sign was doubtful. The abdominal wall was held rigidly and all reflexes were exaggerated. The pulse, at first rapid and weak, later became full and bounding with occasional slight irregularity. There was no fever. Respirations were normal. Twenty cc. of clear fluid not under pressure were removed from the spinal canal by lumbar puncture. Careful search showed no tubercle bacilli and only a very few cells. The cutaneous tuberculin reaction was negative. The leucocytes were 14,400. These findings tended to confirm our probable diagnosis and we gave an unfavorable prognosis.

On the 6th the temperature rose to 103° F. and the pulse was rapid and occasionally irregular. Occasional tremor of the left arm was noted. By the next day the temperature was normal. She was perfectly rational, the stiffness had disappeared. The heart's action was regular.

On the evening of the 7th there was another rise to 102° F. Next day the temperature was normal.

By the 13th she was quite rational. Except for slight inequality of the pupils, the physical exami-

nation was negative, and another lumbar puncture secured only a few drops of a clear fluid.

On the evening of the 14th she again passed into coma with rigid extremities but by the 15th the rigidity was disappearing and she responded when spoken to. The leucocytes were 21,200. Examination of the eyegrounds was negative except for the spot previously noted which seemed somewhat elongated. The urine was always free from albumin and casts.

By June 19th she was convalescent although the heart was occasionally irregular. Systolic pressure 165mm., diastolic 110mm Hg. She remembered nothing which had happened to her since her fall. From this time (19th) to her discharge on July 10th she rapidly improved. A leucocyte count on June 22nd showed 14,200 cells. Before leaving the hospital the systolic blood pressure was 118mm Hg.

Two cases of this series were unrecognized. Like most of the cases not diagnosed or wrongly diagnosed the sins committed by us were those of omission not of commission. The second of these cases (Case IV.) was not reported to me and his final coma developed while I was away from the hospital. My assistants should have made a diagnosis, I think.

Case III. P. W., Hosp. No. 8435, a white man, 61 years old, a laborer, was admitted to the Milwaukee County Hospital on Aug. 22, 1910, complaining of injuries. When received in the ward he was in a semi-stupor, answered questions with great effort and in a whisper. He did not wish to be disturbed. He said that he had been kicked in the belly or chest, he could not remember which, by a horse, but he could not remember when this happened.

On examination the lungs, heart, and abdomen were negative. There were no evidences on the head of any injury, no odor of alcohol on the breath. The pupils were equal and reacted normally. The reflexes were equal and active on both sides. The pulse was rapid and felt of low tension, (blood pressure not measured).

While in hospital the stupor gradually deepened, he developed incontinence of urine and feces, the pulse became weaker and more rapid, and he grew visibly thinner. Shortly before death at 8 P. M., Sept. 11th, the respirations became slow and shallow.

Autopsy on the 12th revealed the following con-

ditions in the skull: There were no bruises or evidences of injury on the surface. The calvarium came off readily with no adhesions between it and the dura. No fracture was found. Spread over almost the whole left hemisphere beneath the dura was a reddish-gray partially organized clot which had compressed the brain substance forcing the left hemisphere beyond the median line. Both lateral ventricles contained excess of clear fluid.

Case IV. Linear fracture of the vault; subdural hemorrhage; concussion; apparent recovery; coma nine days after injury; death; autopsy.

J. W., a white man, 46 years old, a carpenter, Hosp. No. 10,335, was admitted to the Milwaukee County Hospital on Nov. 22, 1911, complaining of injury to back. He said that on Nov. 14, while working on a scaffolding about 30 feet above the ground, he fell, striking his back and the back of his head. He lay where he had fallen for about two hours before he was found and carried to the Emergency Hospital. He was unconscious for a short time. Examination of the eyegrounds was said to have been normal. He remained at the hospital for five days when he seemed to have recovered and went home. He was home four days when he felt so badly that he applied for admission to this hospital. His friends thought that since his accident he had changed mentally. He had become morose and peevish and somewhat childish and was easily confused in his answers to questions.

In the ward he lay quietly in bed, complaining of no pain when at rest. His breathing was a trifle noisy, respirations 18 to minute. The pulse was 68-72, good volume, (blood pressure not measured). On the left side of the head was a very small abrasion and faint bluish discoloration of the skin. The scalp was bathed in sweat. The left pupil was considerably larger than the right but both reacted to light and to accommodation. There was slight ptosis of the left eyelid. There were coarse rales throughout the lungs. The examination of the heart and abdomen was negative. The right knee-jerk was absent, the left somewhat exaggerated. The case did not seem to the interne to be urgent, so he did not call my attention to the man. Up to the 24th he had seemed in good condition. He lay in bed but got up to go to the toilet and had no complaints. At times his answers to questions seemed slightly irrational. The afternoon of the 24th while I was away from

the hospital, he became very drowsy, he lay with his head thrown back, and rapidly became comatose. The left pupil was still larger than the right. There were constant athetoid movements of the right hand. The left hand was motionless. The left patellar reflex was active, the right absent. The cremasteric, abdominal, and Achilles' tendon reflexes on both sides were absent, the Babinski was present on both sides. The lungs were full of coarse rales. The catheterized urine showed no albumin, no sugar. The systolic blood pressure was 130mm. Hg. Within a few hours the heart became irregular, rate 74 to minute. He soon became quieter but frothy mucus poured from the mouth and he had incontinence of urine and feces. A lumbar puncture gave 10cc. of clear fluid under no pressure. He became worse and died about midnight.

Autopsy at the Coroner's Office revealed a linear fracture of the squamous portion of the left temporal bone, running from above slightly downwards and forwards, ending at the wing of the sphenoid bone. The bone was unusually thin. One of the branches of the anterior branch of the left middle meningeal artery was torn and a large recent subdural clot of about 60cc. lay spread over the greater part of the left hemisphere. There was considerable edema of the whole brain. Scattered throughout the white matter were many pin-head sized hemorrhages. The left hemisphere was much compressed, the commissure being pushed beyond the median line at its anterior third.

Here was a case of injury with apparent recovery from the immediate effects of the blow, an interval of ten days during which he was quite rational but evidently was mentally deranged, then sudden symptoms of extreme compression of the brain. Probably death was due to edema of the brain and not to a further hemorrhage from the torn vessels. The vessels of the brain must have reached a stage when the endothelium was so damaged that differences in osmotic tension produced edema.

Not infrequently a fracture of the base may be most extensive but the very fact that blood and cerebrospinal fluid flow so freely from ears or nose provides an outlet for the escape of fluid which if held in the closed cranial cavity would produce symptoms of rapid compression. On the other hand a blow on one side of the head may cause the most extensive contusions and lacerations of the

brain substance without injuring the meningeal artery.

Case V. Fracture of base of skull, anterior and middle fossae, rupture of pial vessels on side opposite injury; concussion, contusion, laceration of brain, recent and old hemorrhage into left hemisphere; no history, no evidence of external wound, choked disc right eye, weakness right side; trephine opening beneath right temporal muscle; death; autopsy.

F. P., Hosp. No. 9,108, a muscular white man, about 35 years old, was admitted to the Milwaukee County Hospital on Jan. 25, 1911, in an unconscious condition. There was no history with the case. The eyelids of the right eye were swollen and of a dull red color. Beneath the right sclera was hemorrhage. The pupils were equal and regular and reacted to light. There was no sign of injury on the head. There was no paralysis evident but he did not seem to use the right side as well as the left. The reflexes on the two sides were equal but diminished. There was right choked disc. The pulse was from 60-72 beats per minute, respirations 16-20, temperature (rectal) normal. Next day there was no change in the condition except that he was very restless at intervals.

On the 27th an intermusculo-temporal decompression was performed on the right side. Two lines of fracture were found extending towards the base and forward. There was no bulging of the dura, no clot was seen, very little serum was apparent in the brain. A trephine opening $\frac{3}{4}$ inch in diameter was made. While on the operating table the pulse became weak and rapid. He rapidly sank and died within two hours after he was brought back from the operating room to the ward.

Autopsy was performed three days after death. The following is abstracted from the notes: The right pupil measures 6mm., the left 4mm. in diameter. The trephine opening is 3cm. in diameter and is situated at the junction of two lines of fracture of the skull, the longer of these lines runs in an anteroposterior direction in the middle fossa for a distance of about 10cm. The second line extends towards the vertex for 3cm. When the skull cap is removed there is found no hemorrhage beneath the seat of the fracture but upon the opposite side of the brain there is most extensive hemorrhage beneath the pia mater. There are two

chief blood clots, one 4cm. in diameter in the anterior pole of the left frontal lobe, the other of equal size is in the anterior portion of the left temporal lobe. In the area occupied by these hemorrhages the brain matter is entirely replaced by dark red blood in which no organization of clot is evident. In the body of the sphenoid bone is a stellate fracture. There is clotted blood in the orbital cavity. When the brain is sectioned no distension of the lateral ventricles is found. Scattered through the gray and white matter and pons are many pin point ecchymoses. Just posterior to the hemorrhage in the left temporal lobe, the brain substance is very soft and moist and has a yellowish color somewhat resembling melted butter.

Case VI. Hemorrhage into the pons; no evidence of fracture or of injury to the skull; patient in semi-unconscious state; no history; bilateral choked disc; right more choked than left; decompression in left parietal region; death; autopsy.

A. M., Hosp. No. 9019, a white man about 30 years old, well nourished, was admitted to the Milwaukee County Hospital on Jan. 10, 1911, in a dazed stuporous condition. No history could be obtained. To all questions he answered that he did not know. He complained of being sore all over but there was no tenderness.

On examination there were no signs of injury on the head or any other part of the body. Over the left side of the head at about the junction of the temporal and parietal bones there was a flattened area about 5 by 2.5 cm. This was not thought to be an injury. The right pupil was larger than the left. Both reacted normally. Except for an old scar on the penis, the physical examination was negative. Although no evidences of head injury were present there was evidence enough to suspect some brain condition so the eye-grounds were examined on the 13th and choked discs on both sides were found, the right appearing the more choked. A decompression was advised and was performed on Jan. 14th without a general anesthetic. Incision was made at the site of the depression, the skull was trephined, but no fracture was found. There was some bulging of the dura and when this was incised a large amount of serous fluid escaped. No hemorrhage or tumor was found. A drain was left in the wound.

It was thought that another decompression on the opposite side might be advisable if the patient

did not show some improvement in 48 hours. However his condition did not seem to warrant further surgical interference. For two days he improved slightly then suddenly grew worse and died Jan. 17th.

Autopsy was performed on Jan. 18th. The following is abstracted from the notes: There is a healing operation wound in the left parieto-frontal region beneath which is considerable edema of the scalp. The left pupil measures 7mm., the right 4mm. in diameter. Upon dissecting back the scalp there is a trephine opening 2.5cm. in diameter. When the skull is removed no excess of fluid is found, the meninges appear normal except for slight congestion immediately beneath the operation wound. No fracture of the skull is found. The ventricles are not dilated, the cortex and white matter appear normal.

The pons is thicker than normal and in the substance of each lateral half are areas of recent hemorrhage about 1cm. in diameter, extending parallel to the axis for about 2.5cm. The arteries of the brain appear normal.

It is possible that this may have been the result of syphilis. It is difficult to conceive of an injury causing such a condition in the pons unless there were some evidences of the injury. It is certain that a further decompression could have done no good.

There are histories of two recoveries which I shall briefly relate.

Case VII. Fracture base of skull through petrous portion left temporal bone; concussion; compression; bilateral choked disc; rapid recovery.

C. K., Hosp. No. 9245, a well developed white man, 63 years old, was admitted to the Milwaukee County Hospital on March 20, 1911, complaining of injury to the head. He had never been ill in his life, was a moderate drinker. He said that on March 14 while engaged in his occupation of driving an express wagon, he crossed the car tracks. The horse gave a sudden jump and he was thrown out of the wagon striking on his head. He was unconscious for about 18 hours. Immediately after the accident he was taken to the Emergency Hospital where he has been until his entrance here. Both eyes were greatly swollen, the right one so much so that he could not see. There was bleeding from the left ear immediately after the accident and for two or three days he spat up considerable blood.

On admission he was rational and talked intelligently. There were no paralyses. The pupils were regular, equal, and reacted normally. Around both eyes there was pronounced ecchymosis which was also seen beneath the sclerae. There was a small superficial erosion of the skin over the right eye. The physical examination was negative.

Examination of the eyegrounds showed bilateral choked disc. Pulse 84, respirations 20, temperature normal.

The condition did not seem to warrant any surgical interference. He rapidly improved and on the 22nd was allowed to get out of bed. Examination of the discs on the 24th showed only a very slight choke on the left side. He developed an intercurrent strangulated hernia which was operated upon and he was discharged well on May 8, 1911.

Case VIII. Fracture base of skull involving petrous portion of left temporal bone; concussion; compression; edema; recovery.

M. S., Hosp. No. 8915, a white man 25 years old, a laborer, was admitted to the Milwaukee County Hospital on Dec. 17, 1910, complaining of wound on the head. He said that 7 days before admission he was struck on the head above the left eye with a beer bottle. The blow felled him and he lost consciousness. He was carried to the Emergency Hospital where he remained unconscious for eight hours after which he woke up, was nauseated and vomited. Blood flowed from the left ear. Twelve hours after the injury he went home and except for some dizziness when on his feet he felt well. The dizziness has gradually disappeared but a severe headache has been present for the past week.

When examined immediately upon entering this hospital, he was lying quietly in bed almost in a stupor but answered questions rationally when aroused. There was a healed lacerated wound extending 1½ inches from the left eyelid upward and inward. There was some edema but no discoloration of tissues. About the junction of scalp and forehead was a depression about 3cm. in diameter and 1cm. deep. The pupils were equal and reacted normally. The hearing in the left ear seemed impaired. There were no paralyses or exaggerated reflexes. The lungs, heart, and abdomen were negative. Examination of the optic discs revealed a slight haziness of the left optic disc particularly at the nasal border.

On account of headache, dizziness and partial

choked disc a decompression was advised. He refused. On the 19th the general condition had improved considerably. The discs were normal. He was discharged Dec. 20 at his own request.

There is much that these few cases can teach and to no one more than to me have they been instructive. Unfortunately at the Milwaukee County Hospital, we rarely see emergency surgery. Practically all of our cases of head injury come to us hours or days after the accidents. We thus are never in a position to know what were the exact conditions of the patient, the blood pressure, and eyegrounds, and we cannot always obtain a history of the accident.

Two of our cases we might have saved by a decompression, although both fell into our hands a week and more after injury, had we recognized the condition. In both cases the histories were most misleading. The others we could not have saved, if we can judge from the lesions found at autopsy. From our experience I feel sure that we shall be on the watch for cases of stupor and persistent headache and we shall be able to pick out the cases as soon as they come to us.

The following two cases illustrate our increased knowledge:

Case IX. O. R. Hospital No. 11054, a white man about 45 years old, was brought to the Milwaukee County Hospital on April 20th, 1912, with a history of injury to the head. We learned from the Emergency Hospital that on April 18th he was struck by a street car and thrown on his head and shoulder. He was never unconscious at any time but was dazed. There was a bloody oozing from left ear. When we saw him he was somewhat stuporous, answered questions at times but never rationally enough for us to get a history of the accident. On a previous admission to the hospital it was noted that his mind wandered and his habits were filthy. On examination there was superficial abrasion of the skin of the scalp over the right parietal region and the scalp posteriorly was edematous, the pupils were equal and reacted to light and accommodation, there were blood stains in the external meatus of the left ear. All reflexes were normal, there was no paralysis, pulse 70 to minute, systolic blood pressure 124mm, diastolic 76mm. The pupils were dilated and the eyegrounds examined. The discs were normal. The only data therefore were a history of head injury and bleeding from the left ear. We thought the most probable diagnosis was fracture of the skull involving

the middle fossa and petrous portion of left temporal bone. There were no indications for surgical interference.

On the 21st he was somewhat more rational. He asked for water and answered a few questions. About the injury he remembered nothing. Systolic pressure 130, diastolic 70. This morning there was dilatation of the veins of the left optic disc, the nasal side was not so sharply defined and the cupping did not appear so distinct as on previous examination. At ten P. M. he was groaning with severe headache and examination of the discs showed further obscuring of left disc and evident dilatation of veins of the right disc.

On the 22nd the pulse was slow, regular in force and rhythm, 62 to minute, systolic 144, diastolic 70. The choking of the left disc seemed to be increasing and the cupping of the right disc was not as distinct as at last examination. A surgeon was called but refused to operate in spite of the gradual signs of cranial compression. He decided to wait for further evidences.

On the 23rd both discs were markedly choked, the left the more intense. The patient had had severe headache and appeared mentally confused. The reflexes were equal, the grip of the right hand seemed less than the left. The tongue protruded in the median line and was heavily coated. Pulse regular 60 to minute, systolic 140, diastolic 62. An operation was insisted upon and the cranium was opened on the left side. There was marked bulging of the dura. When this was opened, there was an escape of considerable serous fluid but no clot was found. At 5 P. M. systolic 110, diastolic 70, pulse 66 to minute.

On the 24th the right disc was plainly seen, the cupping was evident. There was some dilatation of the veins of the left disc with haziness of the margins and the cupping was visible. Blood pressure systolic 132, diastolic 74. Later in the day systolic 128, diastolic 68.

On the 25th at noon blood pressure 138 and 68. The temporal half of the left disc was still obscure although the cupping could be seen. The right disc was now more choked. On the 28th, the condition was worse, both discs were again choked. A second decompression was performed, the skull opened on the right side. The intracranial tension was markedly increased and when the dura was incised there was an escape of serum and dark bloody fluid, evidently the remains of a clot.

From that time on, the discs gradually became

normal, but the patient was mentally much confused and filthy in his habits. How much of this was his normal condition and how much was due to the result of his injury, it was impossible to judge.

He was discharged on May 16th, but still had some mental disturbance.

Case X. P. B., Hospital No. 11075. A white laborer, 42 years old, was brought to the County Hospital on April 23, 1912, complaining of injury to the head. He stated that on April 20th he was drunk and while standing on a pier, fell off into the water. He was a muscular man, physical examination entirely negative except for a slightly infected scalp wound on the top of the head. He was mildly delirious, especially at night, saw demons and snakes and seemed to be suffering with delirium tremens. The blood pressure was 140 and 82, the pulse 60 to minute and was slightly irregular. There was no indication of fracture of the skull at the time, but he was carefully observed. The eyegrounds were examined on April 25th. O. D. normal. O. S. veins seemed slightly dilated in the disc. The patient complained of severe headache all over the head. On the 27th, the following note was made: The patient was very noisy to-night. He was rational but was gasping for breath, tossing about and seeing all manner of terrible things in his room. He complains of intense right-sided headache but discs are not changed in appearance from last examination and the blood pressure (140) is the same as it has always been. There is no increase of knee-jerks, no beginning paralysis or loss of sensation in any part of body. He sleeps quietly for a few minutes to several hours unless disturbed, when he begins to toss and see phantoms.

On the 28th he complained of severe headache. O. D. showed the veins to be slightly dilated. O. S. disc is slightly hazy on the nasal side with some evident dilatation of the veins. Blood pressure 132 and 70 at 6 P. M.

On the 29th it was noted on the chart that for the past three to four days the patient has had violent headache not located in any one spot in the head. Except for a slight stiffness of the posterior muscles of the neck, the examination was negative. O. D. today showed dilatation of the veins and choking of the nasal side of the disc. O. S. indicated general choked disc, with slight edema of the retina.

Here was a man who had a history of a fall

while drunk nine days ago. At first no symptoms of head injury, then headache and gradual progressive choking of the optic discs beginning on the left side. A surgeon was called who concurred in the diagnosis and in the recommendation for a decompression. This was done on the 29th. The skull was opened on the left side. There was bulging of the dura. When this was incised, considerable old, dark, semi-clotted blood escaped under considerable pressure.

Following the operation, the left disc cleared up within the next two days, but the right became slightly more choked. He was watched carefully and although there was edema of the discs, the blood pressure was 128 and 90 and his general condition was improving.

From May 3rd he rapidly improved and by May 9th when he was discharged the discs were normal and his condition was excellent. These two cases are particularly instructive. They demonstrate several most important points in the diagnosis of skull fracture

1. There may be no sign of external violence.
2. There may not be actual unconsciousness.
3. Examination of the eyegrounds is the most important measure in arriving at a diagnosis.

It is not enough to examine them once within a few hours after the injury. Daily or oftener the discs should be examined. Had we not persisted in our examinations we might have lost both cases, certainly their convalescence would have been prolonged and mental sequelae might have occurred. Even all surgeons do not fully appreciate the importance of the progressive increase of choking of the disc. We had to insist upon operation in the case of O. R. This sign, something which we can actually see, cannot be too strongly emphasized.

There are certain points to be emphasized. Granting that the present views of intra-cranial tension are correct, two instruments become of really vital importance: the sphygmomanometer and the ophthalmoscope.

One must actually measure the blood pressure. Tension cannot always be judged by palpating with the finger, and no one can follow without the instrument the gradual increase in tension. Frequent estimations should be made on every patient following a head injury, for without any external evidences of injury the brain may be compressed and rupture of vessels with extravasation of blood follow a blow on the skull. The steady rise of blood pressure is a valuable sign. On the other

hand without choked disc but with a rising or already high blood pressure I should urge decompression at the earliest possible moment.

As can be noted from the histories the blood pressure in several of the cases gave us absolutely no information. It was normal in all but one case and in that case the high blood pressure was not the only sign present.

With increasing experience of the choked disc I feel that it is the most valuable sign which we have of intracranial tension. This is strikingly shown in case X. Here we had only one sign and one symptom upon which to base a diagnosis, viz.: choked disc and persistent, increasing headache. There has been some criticism of the value of the choked disc. Naturally one does not find choked disc when there is free drainage of cerebrospinal fluid from a fracture of the skull and there may be a large clot sub or extra-dural. But when there is edema of the brain with no outlet for the excess fluid, the choked disc, to my mind, is invaluable.

I am not an eye specialist, yet by practice I have learned to use the ophthalmoscope so that I can recognize fairly well a beginning choked disc, and easily recognize marked choking. I am sure that anyone who takes occasion to use it often can acquire the ability to see the choking of the discs.

It is only by making a diagnosis that we can institute proper treatment, and where, as in these head injuries, all depends upon accurate diagnosis, we should bear in mind that of all the objective signs revealing intracranial tension, gradually increasing blood pressure and especially choked disc are the most important.

PRACTICALLY BLOODLESS TONSILLECTOMY.

BY HENRY B. HITZ, M. D.,
MILWAUKEE.

The recognized treatment for chronic disease of the tonsil at the present day is that of complete removal. There can be no gainsaying the fact that the vast improvement in surgical technique in recent years has resulted in accomplishing a tremendous advance over the older methods of snipping hypertrophied tonsils with the knife, scissors or guillotine. As a matter of fact the indications for tonsillar removal have likewise changed considerably in the light of better knowledge, with the result that the hypertrophied tonsil, easily seen

by inspection, is by no means the only condition for which removal is indicated. Of vastly more import is the small inbedded, or I might say phymotic tonsil whose crypts are frequently dammed up, forming irritation or retention areas leading more readily to absorption and glandular involvement, or general infections, such as the arthritides, cardiac conditions, etc.

It must not be understood, however, that every tonsil seen should of necessity be removed. On the contrary the tonsils unquestionably subserved, in early life at least, a defensive function and should only be attacked for cause. What this cause may be must necessarily differ somewhat in the eyes of various observers.

For many years I have recognized three dominant reasons, any one of which indicate to me the advisability of complete enucleation of the tonsils. Briefly stated these reasons are first and foremost, chronic involvement of the peritonsillar lymphatic glands, whether the tonsil be large or small, buried or exposed; second, the history of recurrent attacks of acute tonsillitis, and thirdly, the presence of hypertrophy. The mere presence of hypertrophy of the glands in the upper triangle, viz.: those receiving tribute from the tonsil, is prima facie evidence of a leak in the tonsillar filter. To my mind this condition is one of the most important factors in determining upon an operative measure. Furthermore, cervical adenitis of this type indicates in no uncertain manner that the nature of the operative procedure upon the tonsil shall be radical and thorough.

As to the kind of operative procedure, one may take his pick of the numerous excellent operations that have been devised in recent years. The one that perhaps has had the greatest vogue recently, has been that known as the Sluder operation, or some one of its modifications. The reason for this is largely apparent to those who have used the method and it is likewise one that appeals most readily to the general practitioner.

My objections to all operations of this type are first, that they are adaptable to a certain class of cases only, notwithstanding the claims put forth by their advocates; and second, that the serious surgical nature of tonsil removal is entirely lost sight of. What would you say of a general surgeon who opened the abdomen, snipped off the appendix, dropped back the gut and dressed the wound without taking reasonable precautions to

prevent leakage of the bowel contents or of blood. In my opinion a similar situation exists in regard to the tonsil. The average operator removes the tonsil, allows the patient to bleed profusely, and if alarmingly so, checks the hemorrhage with styptics and then lets the patient go. It is against just such procedure as this that our present efforts at the Children's Hospital, Milwaukee, are directed, and in following out for years a steadily improving technique we have had the aim of eliminating the tonsil under as perfect surgical conditions as can be produced.

We believe that only the radical removal of the tonsil is permissible. Furthermore, we believe that the radical removal of the tonsil is a sufficiently serious proposition to necessitate its being done in a hospital, and that the patient be kept consistently quiet after operation for a period of at least five days, the reasons for which will hereafter appear. We have developed our technique at the Children's Hospital to the extent that we feel we can justly claim about 75% of all cases operated on as being practically bloodless by reason of this technique.

In July last when the thought came to me of writing upon the subject, I instructed our internes to keep a record. Of the last 57 cases operated upon at the Children's Hospital by my associate Dr. Beebe and myself, 31 are recorded as "Bloodless" and 26 as having a slight hemorrhage, there being none of the violent hemorrhage formerly so frequent.

By the word 'bloodless' we mean to imply no more hemorrhage than would attach to the scratching of a mucus membrane anywhere, in other words, sufficient only to partially soil not more than one-half dozen sponges, the size of the tonsil. The technique that we have developed consists first in operating under the best direct illumination that can be had; second, in using a gag which gives an unobstructed field of vision so that the work can be done under the guidance of the eye; third, by an incision with a knife inserted beneath the mucus membrane only, beyond the limit of the tonsil margin. A little tension upon the tonsil gives a clear line of demarcation, through which a blunt separator is passed, loosening the upper pole of the tonsil from its bed and bringing into view the upper vascular supply, a branch of the ascending pharyngeal, which is clamped and separated. In rolling down the tonsil the other main blood channels are brought into view and clamped, usually three clamps being sufficient, after which the

removal is completed by throwing a loop around the lower attachment. Should any vessel have been overlooked, it is immediately picked up. After about five minutes the clamps are removed and should then any bleeding appear, the vessel is again caught and ligated. Our method of placing the ligature is to pass a $\frac{5}{8}$ inch Hagedorn needle through the tissues clamped, generally tying above and below.

The patient's position is upon his right side, the anesthetic (ether) being administered by means of a bellows and a vaporizer through a channel in the tongue blade, the right tonsil being removed first. Before the patient is removed from the table a careful examination is again made of both wounds and should there be excessive gaping in the upper margin, sometimes a suture is placed for the purpose of narrowing the gap, it having been found that less after-discomfort is occasioned than when the wound is left wide open.

The operation is done in the same position for both local and general anesthesia, local anesthesia (novocain and adrenalin) only being used in selected cases of adults.

The period of time which we keep patients in the hospital, 5 days, may seem excessive to many of you who have seen these cases operated upon in the office and allowed to go out immediately. As a matter of fact, it takes at least 10 days in every case, for complete recovery to occur, in any type of tonsil removal, the first 5 days being generally the period within which secondary hemorrhage may occur. Our aim is to keep these patients where they may be promptly reached in case of this eventuality, but preferably to prevent its possibility by being sure that they are not committing any indiscretions. Nature covers a wound of this type by a coagulum not unlike diphtheroid membrane which usually exfoliates or melts away between the 4th and 5th day, leaving a clean granulating surface beneath. Until this coagulum is entirely exfoliated, the danger of secondary hemorrhage is ever present. Before I recognized the necessity of following the above precautions, I had one case of secondary hemorrhage occurring on the 4th day, one hour after the patient had left the hospital, necessitating the ligation of the common carotid. I have been called to attend in several other instances within the 5th day period, for the purpose of checking hemorrhage of serious character that have occurred in cases that have been operated upon by others. Since the precautions

above suggested have been followed, I have had no cases of secondary hemorrhage in my own service. Secondary hemorrhage, however, need not necessarily be a serious danger, providing the patient can receive the proper attention at the proper time. It is the important element of the lapse of time that makes hemorrhage of this type such a serious factor. Other methods of hemostasis, such as the use of pressure, hot sponges, hypodermic infiltration and styptics may be used if necessary.

Let me suggest that the after discomfort to the patient, as in an appendectomy, is directly proportioned to the amount of traumatism done at the time of operation, and by the avoidance of unnecessary sponging and prodding with finger or instrument, the less will be the after complaint of the patient.

Before closing, it may be well to refer to the apparatus used for the administration of ether. Etherization is begun by the drop method, and as soon as the patient is at the proper stage, the gag inhaler is inserted. If an effort is made to get the patient down with a gag inhaler, considerable resistance is apt to be met with, which will not be the case if the method here suggested is adopted. Another distinct value in the use of this gag is the complete ease with which secretion may be wiped out if necessary and free respiration completely controlled.

In common with all other dangers of operative measures there are added those inherent in all throat operations, and strangulation from mechanical interference with respiration or the inhalation of fluids, is by no means the least. It can thus be readily seen that any apparatus of this type which not only gives a complete view of the field of operation but perfect control of the anesthetic and easy access to the lower throat has a distinct place in our armamentarium.

The operation above suggested is as simple and easy, is as safe and certain as any procedure ever devised, when the technique is mastered, and what is more, it meets the demand of the most exacting surgical criticism.

TUBERCULOSIS COLUMN

COMPULSORY COMMITMENT LAW.

For a number of years at the various meetings of the national, state and local anti-tuberculosis associations, one of the serious problems discussed

has been the proper procedure in the care of advanced open cases who will not observe the state law prohibiting expectoration in public places and providing for the carrying of a sputum flask or receptacle in which to deposit his sputum or other infectious secretions.

In practically every locality there are one or more persons afflicted with pulmonary tuberculosis in the advanced stages who are extremely careless in these respects. Such individuals frequent stores and other public places almost daily and are undoubtedly the direct cause of many new cases of tuberculosis.

In 1907, Chapter 93 was enacted which provides, in Section 1416-6, that every person afflicted with tuberculosis of the lungs or larynx must provide himself with a sputum flask or receptacle in which to deposit the sputum, saliva or other infectious secretion while traveling in any public conveyance or attending any public place. Provision was also made in this section that the contents of said flask or receptacle shall be burned or otherwise thoroughly disinfected. The penalty section of this law provides for a fine of not less than five dollars or more than one hundred dollars or by imprisonment in the county jail for not less than five days or more than ninety days for each offense. In addition, it is made the duty of the local board of health, upon complaint, to investigate the conditions complained of and, if found dangerous or detrimental to the public health, the board shall make and enforce such orders as may be necessary to abate the offense or dangerous cause thereby.

In a large number of cases, when the attention of the individual has been called to these provisions in the law, no further difficulty was experienced and, so far as can be learned, a sincere effort was made to properly dispose of the sputum so as to prevent the exposure of other persons. In many cases, however, and there are a goodly number of such cases scattered throughout the state, the instructions given were of no avail and prosecution under the penalty section of the law above referred to was the only method of procedure left. In most of these cases the individual complained of was in stricken circumstances and therefore unable to pay the fine which would be imposed. For this reason and out of sympathy for persons having this affliction, it has been extremely difficult to get anyone who is willing to swear to a complaint in such cases. As a result, there have

been very few prosecutions and unquestionably many of the active and far advanced cases in Wisconsin at the present time can be traced directly to carelessness on the part of these advanced chronic cases of tuberculosis.

With the view of providing some orderly means whereby such persons can be legally confined, Chapter 308 of the Laws of 1913 was enacted. This law amends Section 1416-6 of the Statutes so far as to provide that a sputum flask or receptacle must be carried by persons afflicted with tuberculosis of the lungs at all times. Under the old law as contained in Chapter 93, Laws of 1907, the sputum flask was only required while the person was traveling in a public conveyance or attending any public place. The new section relating to compulsory commitment is as follows:

"If any person afflicted with tuberculosis, as shown by the examinations made in the state laboratory of hygiene, fails or neglects to obey or comply with any of the provisions of this section, or of the rules adopted and published by the state board of health for the suppression and control of tuberculosis, such person may be committed to any county hospital for the care of persons suffering from tuberculosis or to any other place or institution where proper care will be provided and where the necessary precautions will be taken to prevent any unnecessary spread of tuberculosis, by any judge of a court of record upon due proof that such person has violated said law or said rules and regulations of said board of health. Complaint that said laws or the rules and regulations of said state board of health have been violated may be made by any health officer or any resident of any city, town or village in which any such person shall have violated said law or said rules and regulations, and when such complaint shall have been so made, it shall be the duty of the judge of said court to notify the person who, it is alleged, has so violated said law or said rules and regulations, that such complaint has been made. If, upon hearing, it has been found that such person has so violated said law or said rules and regulations, the court may then make the order for commitment of such person in the manner provided in this section. The court may also make such order for the payment for care and treatment as may be proper.

"After commitment, such person may be discharged by said court at any time when the court thinks it proper to do so. Any person so com-

mitted to such hospital or institution, who fails to remain there, or who neglects or refuses to obey the rules and regulations of that institution, may, in the judgment of the superintendent, be isolated or separated from other persons and restrained from leaving the hospital or other institution."

We hope that all physicians of the state will acquaint themselves with this law so that when the case arises where it is necessary for the protection of the public health to remove an individual to an institution there will be no delay in the matter.

There should be no hesitancy about acting under the provisions of this law. The individual will be better cared for in such an institution than in his own home and, if there is any possibility of arresting the progress of the disease or effecting a permanent cure, the institutional treatment will be best adapted to accomplish these results. When it can be shown that the compulsory commitment of a person suffering from pulmonary tuberculosis cannot in any sense work a hardship upon an individual or those responsible for his support, there should be no hesitancy in applying for the commitment of a person who is a menace to the health of the community. It is true the rights of the individual will be curtailed in a measure, but in all cases the rights of the individual are only secondary to the public good. The strict enforcement of this law will accomplish more in eradicating tuberculosis than any other one agency.

L. W. HUTCHCROFT.

Statistician State Board of Health.

BOOK REVIEWS

Medical and Surgical Reports of the Episcopal Hospital, Philadelphia, Vol. I., 1913. Wm. J. Dornan, Philadelphia, Publisher. This volume contains the annual report of the hospital and an interesting collection of papers on surgical, medical, neurological, obstetrical, oral, and ophthalmological subjects by the staff of the hospital. One of the best of these is the paper on The Rational Treatment of Tetanus by Dr. A. P. C. Ashhurst and Dr. R. L. John, of which further mention is made in our editorial pages this month.

This method of making use of the material passing through the wards of a great hospital has much to commend it and it is to be hoped that the excellent start which has been made in the first volume may encourage the managers of the hospital to continue the series.

Practical Medicine Series. Volume 6, Series 1913. General Medicine edited by Frank Billings. M. S., M. D.,

and J. H. Salisbury, A. M., M. D., Chicago Pp. 344. Price \$1.50.

Volume 7, Series 1913. *Obstetrics*, edited by Joseph B. De Lee, A. M., M. D., and Herbert M. Stowe, M. D., Chicago. Pp. 220. Price \$1.50. The Year Book Publishers, 327 South LaSalle Street, Chicago.

These volumes of a handy size and attractively arranged for the student and busy practitioner, are replete with suggestions of the best practice of the day. The material of the volumes consists almost entirely of abstracts of important recent articles, in each case giving reference to the original article. The ground is covered with great thoroughness, so that these books present in condensed form what has been done during the year that is really good.

By means of this excellent series of books it is possible for the general practitioner to keep in touch with medical progress in all its directions, an undertaking which the growth of medical literature has rendered an impossibility without such an aid. The judicious editorship of the entire series and of the individual volumes eliminates most of the superficial and unsound in current medical literature and presents the articles of real value in a form full enough for satisfactory use.

For the busy general practitioner, who desires to keep moving with the current of progress this series will prove most helpful.

PATHOLOGY, GENERAL AND SPECIAL. A manual for Students and Practitioners. By John Stenhouse, M. A., B. Sc. (Edin.) M. B. (Tr.), formerly demonstrator of Pathology, University of Toronto, Toronto, Canada. Second Edition, revised and enlarged; including selected list of State Board Examination Questions. 12mo, 278 pages, illustrated. Cloth, \$1.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

The medical student of today, from the time he enters college until he graduates, is confronted with a bewildering mass of scientific information, the main facts of which he is expected to assimilate in four years. Even after he enters professional life he must still continue his studies in order to keep himself abreast with modern progress. To be able to grasp intelligently the new advances as they come and make practical application of them, he should have the fundamentals of the subject clearly and prominently in mind. To this end the *Epitome* is admirably suited; it is not a means of escape from wider or deeper reading, but an incentive and trustworthy guide to it. Stenhouse's *Epitome of Pathology* is unusual in the excellence of its text, illustrations and arrangement, and the questions at the end of each chapter will be found a strong mental stimulus, for they bring out in bold relief the important points throughout the volume.

THE EYE AND THE EYE GLASSES. von Rohr, M., Scientific Assistant at the optical works of Carl Zeiss, Jena. 100 pp. with 84 figures in the text and one plate of photogravures. "Aus Natur und Geisteswelt, Sammlung wissenschaftlich-gemeinverständlicher Darstellungen." Vol. 372. B. G. Teubner, Leipzig, 1912. Cloth, \$0.38.

In this little volume of the renowned collection of scientific popular discourses the most important points concerning eye glasses are presented.

The first part gives a brief anatomical and optical description of the eye as an optical system at rest (in indirect vision), and its accommodation. Then the different conditions in direct vision are set forth, i. e., if the mobility of the eye in the orbit during its normal activity is considered viz.: the center of motility of the eye, the line of fixation, the perspective, and vision with both eyes.

The bulk of the book is devoted to the spectacle lenses under the following chapters: combination of both systems of the lens and the resting eye with axial ametropia, the distance of lenses from the eye, the correcting, presbyopic, and telescopic glasses, the lenses for the moving eye, prismatic and astigmatic, punctually focusing, glasses.

The last section deals with the frames of spectacles, eyeglasses, and lorgnettes. Mathematical formulas and the introduction of geometrical conceptions were reduced to a minimum, necessary for the understanding. This is considerably facilitated by the large number of new figures.

C. ZIMMERMANN.

TEXTBOOK ON THE DISEASES OF THE EAR, THE AIR PASSAGES AND THE MOUTH. Denker, Alfred, Professor, Halle a. S., and Brünings, Wilhelm, Professor, Jena. 643 pp. with 305 illustrations in the text, mostly in several colors. Jena. Gustav Fisher, 1912. 14 Mark, \$3.50. Bound, 15 Mark, \$3.75. The combined discourse on the diseases of the ear and the air passages makes this new book especially valuable on account of the many not only etiological but also technical correlations of these disciplines. The diseases of the ear, nose, accessory cavities and nasopharynx are presented in a masterly manner by Denker, the diseases of the oral cavity, pharynx, larynx, trachea and bronchi by Brünings. According to the practical importance the symptomatology, diagnostics and therapy are given the largest space. Not only the conservative, but also the operative treatment is so exhaustively discussed, that also the specialist may inform himself as to the most important and reliable methods of operations. For a better understanding of the pathological processes a brief survey of the complicated anatomical relations and the physiology of the ear and the different parts of the air passages, with numerous excellent illustrations, precedes each chapter. Besides the concise and pleasant language in which the book is written, it excels in an abundance of illustrations, mostly in several colors, including copies of the classical oil paintings of the most important diseases of the larynx and pharynx by the late Dr. Hennig of Koenigsberg. These paintings are now at the museum of the Kaiserin Friedrich House at Berlin. The judicious use of different print, table of contents, and a complete index, greatly facilitate orientation. The external appearance is very handsome and the price very moderate. All in all it is an unusually good book which is bound to have a sweeping success.

C. ZIMMERMANN.

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EDITORIALS

WOOD ALCOHOL POISONING.

We have recently beheld the entire civilized world watching with intense interest the outcome of the Ritual Murder Trial at Kiev in far away Russia, and on every side we have heard the chorus of outcries of amazement and disgust that in this age of enlightenment and progress such a procedure could be possible.

But from some points of view we in America are hardly in a position to "first east a stone" at Russia. In spite of our own boasted enlightenment and progress we are still permitting human sacrifices to be offered to the gods of Ignorance and Stupidity and Greed. What milder expression can be justified for our continuance of the permission to the makers of and dealers in Wood Alcohol, and to those who use it in the various trades, to sell or handle it without adequate warning of its dangers?

Wood Alcohol is a Poison. A teaspoonful may cause total blindness, a larger quantity often causes death. Twelve persons were blinded and three were killed by wood alcohol during 1912 in New York City alone.

Only within recent years has wood alcohol become so dangerous to life and sight. Formerly it was a dark, bad-smelling, bad-tasting fluid which no one was tempted to drink. A process is now known by means of which this color, taste and odor are removed. Wood alcohol, when purified in this way, looks, tastes and smells like "good"

(grain) alcohol, and may easily be substituted for it in white whiskey, cordials, brandy, essences, patent medicines, etc.

Wood alcohol is poison and should not be used in any drink or medicine. Among the drinks and medicines which have caused blindness or death because they were adulterated with wood alcohol are such familiar preparations as Essence of Jamaica Ginger, Paregorie, Anisette, White Brandy, Bay Rum, and Compound Spirit of Lavender.

As much blindness and death have been caused by breathing the fumes of wood alcohol as by swallowing the liquid. These fumes come from wood alcohol used in various trades—for example, in varnishing furniture, lead-pencils, and the inside of vats; in dyes for coloring feathers and artificial flowers; in shellac, for stiffening hats; in the manufacture of photo-engravings; and from stoves and lamps in which wood alcohol is burned. Many men are blinded and others killed by fumes inhaled from wood-alcohol varnish used to varnish the inside of vats, when the only means of ventilation is a small manhole.

Wood alcohol should always be labeled poison, because most people do not know that the liquid and its fumes are dangerous to life and sight, and because wood alcohol is used in various trades without precautions to protect workmen.

It is said that wood alcohol is sold by druggists, without a poison label as required by law, under various trade names, such as Columbian Spirits, Eagle Spirits, Lion d'or, Colonial Spirits, Hastings Spirits, Acetone Alcohol, etc., and it is also

sold in groceries and paint shops in unlabeled bottles and cans.

In addition, unscrupulous liquor dealers refill whiskey bottles with cheap drinks adulterated with wood alcohol, and sell them to ignorant customers, and purified wood alcohol is sold for the home preparation of cordials, etc.

The New York Committee for the Prevention of Blindness is carrying on an active educational campaign in regard to wood alcohol and its dangers and one of their leaflets on the subject closes with the following excellent suggestions:

"How to prevent blindness and death from wood alcohol. Use "industrial" ("denatured") alcohol instead of wood alcohol, particularly in the trades. It is cheaper and absolutely safe.

Industrial alcohol is grain or "good" alcohol rendered unfit for drinking. It contains ninety parts of grain alcohol, ten parts of wood alcohol, and one-half of one part of benzine or pyridine. There is too little wood alcohol present to give off dangerous fumes.

Use only "grain" alcohol in the home preparation of cordials, etc.

Ask your Senator and member of Assembly to support legislation—

(1) Prohibiting the sale of wood alcohol under any trade name or in any mixture without being labeled poison.

(2) Prohibiting the use of any kind of wood alcohol in any article of food or drink, or in any mixture intended for internal use.

(3) Requiring adequate ventilation in shops and workrooms where wood alcohol is manufactured or used; also ventilators for vats or other large containers which are varnished inside with any kind of wood alcohol varnish. Workmen should spend every alternate half hour in the open air when working under such conditions."

In view of the fact that recent industrial legislation in Wisconsin has added so greatly to the responsibilities of medical men it is well that the present situation with regard to wood alcohol should be thoroughly understood.

THE RATIONAL TREATMENT OF TETANUS.

While an immense advance has been made in the direction of lessening the number of cases of tetanus by the changes in the manner of celebrating the Fourth of July and other National

holidays, there still remain with us the cases which have their origin in the more commonplace accidents of everyday life. In the experimental animal after the injection of tetanus toxin the amount of antitoxin required to prevent death increases in geometrical progression with the lapse of time, and after the lapse of one hour, twenty-four times as much antitoxin is required as when antitoxin and toxin are injected simultaneously. When we realize this fact the importance of early recognition and of prompt, energetic, intelligent treatment of this justly dreaded disease becomes self-evident.

In a very excellent study of this subject Ashhurst and John (Medical and Surgical Reports of the Episcopal Hospital, Philadelphia, Vol. 1, 1913) present a report of 23 consecutive cases treated during the last eight years and review the recent literature in an endeavor to plan a rational method of treatment.

These writers emphasize the importance of remembering that the toxin of tetanus ascends the peripheral nerves (especially the motor nerves) to the spinal cord, certainly by way of the axis cylinders and perhaps also through the peri- and endoneurium, and that the nearer the toxin gets to the spinal cord the more impregnably entranced does it become in the nerve tissue. After reaching the cord the toxin diffuses itself into neighboring parts of the cord and invades the sensory portions as well, in this way producing the extreme hyperexcitability which shows itself in the severe convulsive response to feeble peripheral stimuli. The toxin of tetanus stimulates the motor cells of the spinal cord, and also increases the susceptibility of the sensory side, so that the slightest stimulus will cause a tonic spasm of the muscles controlled by the affected portion of the cord.

The therapeutic indications in tetanus have been summarized by Ashhurst and John as follows:

1. To prevent the development of tetanus.
2. To remove the source which supplies the toxin, i. e., the bacilli of tetanus.
3. To head off and neutralize the toxin already formed.
4. To depress the functions of the spinal cord.
5. To sustain the life of the patient by proper nourishment, nursing, etc.

In preventing the development of tetanus the frequent presence of the *Bacillus tetani* in garden soil and in barnyard and stable and street dirt must be borne in mind. As this bacillus in anaërobic

the conditions which especially favor its growth are found in punctured, contused, or lacerated wounds in which foreign bodies are imbedded, and in which some sloughing of the tissues occurs. A mixed infection, especially with saprophytic bacteria, is particularly favorable for the tetanus bacillus.

The treatment recommended for a suspected wound is painting the surrounding skin with a 3 per cent. alcoholic solution of iodine, making all parts of the wound accessible by free incision if necessary, cleansing the wound thoroughly by scissors and forceps and then thoroughly swabbing it with the iodine solution, packing the wound lightly with gauze soaked in the iodine solution, changing the dressings daily. All caustics are avoided.

The prophylactic use of antitoxin is recommended (1500 units for an adult of 150 lbs.), given as near the wound as possible, so as to flood the tissues in the immediate vicinity; and the injection should be deep, intramuscular if possible, so as to permit its rapid absorption by the motor nerves. In addition it must be remembered that the antitoxin is all eliminated from the system in eight or ten days after its injection and as very little or no toxin may be produced before that time, a second and even a third injection, at intervals of about a week, may be advisable.

In the treatment of the developed case of tetanus the first step is to remove the source which supplies the toxin by treating the point of inoculation by free incision and dressing as described under the preventive treatment. Excision of the related lymph nodes, especially if these are enlarged, may well be considered.

The next indication is to head off and neutralize the toxin already formed by the injection of adequate doses of antitoxin into the motor nerves supplying the infected area, making the injection into the nerve as near the cord as possible; by the injection of additional quantities of antitoxin (at least 3000 units) into the spinal canal; by the injection of a larger amount of antitoxin intravenously, about 10,000 units; and by the injection of 1,500 to 3,000 units into the muscular tissues about the wound.

The intraneural and intraspinal injections may have to be repeated daily, unless marked decrease in the spasticity occurs, and the intravenous injections can be repeated even more frequently. The subcutaneous injection of antitoxin is the most

wasteful and least effective method of administering it.

The important thing is to get the maximum amount of antitoxin into the patient's body as soon as possible.

The excellent results reported by some observers from the use of carbolic acid injections should be remembered, as it is a remedy much more readily obtainable than antitoxin.

The next indication, to depress the functions of the spinal cord, is of great importance, but it must be borne in mind that the remedies used for this purpose do not in any way neutralize the toxin of tetanus. They should be used in addition to the antitoxin, but not as substitutes for it. Ashhurst and John place the greatest reliance upon chloral and the bromides and consider morphine to be less effective as a spinal depressant. The injection of magnesium sulphate solution either into the spinal canal or into the subcutaneous tissues, which has been advocated in the treatment of tetanus, is to be looked upon purely as a spinal depressant, not as a cure for the disease.

Finally, the care of the patient must not be neglected. Protection from noise of all kinds, even talking, is necessary. The bowels and bladder need careful watching. Food may be given by the nasal tube if necessary. Fluids may be supplied by the bowel. Watchful nursing is constantly required.

The authors of this interesting paper feel that if such treatment as has been indicated can be commenced within twelve hours of the first appearance of symptoms, the mortality of this disease should not be over 20 per cent.

THE SHORT CUT CURE FOR INEBRIETY.

The medical profession should hail with delight the signs of the times demonstrated by the campaign recently launched by the Chicago Tribune against the advertising quack and his nefarious methods. The time has been so brief since the higher grade medical journals have refused to accept questionable advertising matter that we have scarcely prepared ourselves for the spectacle of the daily press doing likewise. The action of the Tribune is to be highly commended especially because of its prominence and persistency in reforms once undertaken. There is one class of particularly pernicious advertising which has of late been given great prominence in the lay press as well as in some medical publications — we refer to the

mushroom institutes for the treatment of inebriety—the so-called three day treatment. The best informed men on this subject have been satisfied to effect a cure in these cases during a period of several months. The Keeley Cure reduced the time to four to six weeks and now it is claimed to be possible in three days. One noticeable thing in the change of time in these cures is that the cost for three days' treatment has remained the same as that for four weeks and is requested in advance.

It is high time that the attention of the medical profession was called to the dangers of this new type of quackery. The procedure of the men at the head of these institutes is to produce such a degree of nausea in the patient that he cannot retain liquor or food. Large doses of atropine, strychnine and hyoscyne add to the already profound auto-intoxication so that the individual frequently develops a very critical condition. The writer has during the past eighteen months seen and treated five cases of acute insanity developing directly from this "cure". We know of no class of cases in which the term "cure" is a greater misnomer, for these unfortunate creatures almost invariably relapse in a very short time, due probably to the fact that they are turned loose on the community at a time when their physical and mental condition has been greatly impaired by the very cure they sought for their affliction.

The physician is frequently called upon for advice in handling the various types of alcoholism. Let him remember that there is no short cut to a cure in these cases. Time is required to relieve these patients of their autotoxemia, build up the physical man, and restore him to his normal mental state.

A. W. R.

WARNING AGAINST A PRESCRIPTION FRAUD.

The Department of Agriculture under the Food and Drugs Act has recently been investigating a new trick of certain patent medicine and proprietary medicine vendors which it is believed is deceiving a large number of people into spending money for patent medicines under the impression that they are getting regular physicians' prescriptions for nothing.

In a number of publications the Department finds advertisements are appearing which state that the man or woman whose name is attached was saved from death from one of a number of

serious diseases through some wonderful prescription given to him or her by a regular physician of unusual skill who will not allow his name to be used because of medical ethics. The advertisement states that the writer feels it to be a duty to communicate this invaluable recipe to humanity in order to save them from similar ills. The offer is then made to supply this prescription without charge to any one who will address a post card to the advertiser. People who do not stop to wonder who is to pay for the advertisement and the return postage and writing of the prescription are caught by this fraud and ask for the prescription. In due course a regular prescription is returned. This contains a number of ordinary ingredients and then under a technical name will call for a large proportion of some patent medicine or proprietary drug. The recipient takes this to a drug store to be filled and the druggist finds that he has to buy some of this patent preparation in order to fill it. He, therefore, has to order a large package or bottle of it and to make a profit must charge the customer a good, stiff price for filling the prescription. The customer, of course, gets what is in effect simply a patent medicine which, save that it bears a druggist's label and a prescription number, is the same as a patent medicine sold under the maker's own label and in the maker's own bottle.

The Government can not reach these people under either the Food and Drugs Act or the Postal Laws, because the scheme is so planned as to evade Government laws. The deception and misrepresentation appears in advertisements, circulars, letters, etc., separate from the package and the medicines are seldom sent through the mails. The best the Department can do, therefore, is to warn the people to be particularly suspicious of those who spend money for advertising space, postage, and letter writing, seemingly out of their love for humanity. In all of these cases there is a profit-making scheme back of the seeming philanthropy.

NEWS ITEMS AND PERSONALS

The suit brought by Dr. R. B. Hoermann of Milwaukee against Dr. W. F. Whyte of Watertown for \$25,000 damages was decided in favor of the defendant by Judge Lyon in the County Court of Jefferson County. Dr. Hoermann appealed from Judge Lyon's decision to the Supreme Court but has withdrawn the appeal and paid the costs.

Dr. William F. Lorenz of the State Hospital for the Insane, Mendota, has received and accepted an appointment in the United States government public health and marine hospital service to make a special study of pellagra.

The public health and marine hospital service has taken up the study of this disease to which end congress appropriated \$50,000. The work has been going on for several months. In view of the fact that mental symptoms are a prominent feature in this disorder, those in authority concluded that this field should receive expert attention, and Dr. Lorenz has been selected to make this investigation.

The state board of control has granted Dr. Lorenz a leave of absence for six months that he may undertake this work for the government. He starts on or about the first of next January and his field of work will be mainly in Georgia.

MAJOR VERNON ROBERTS of Dayton, Ohio, has arrived in Milwaukee. He succeeds the late Dr. Oscar Chrysler as chief surgeon of the hospital at the National Soldiers Home.

DR. JAMES W. FREW, Milwaukee, has been appointed major on the medical staff of the Wisconsin National Guard, to fill the vacancy caused by the recent promotion of Dr. Gilbert E. Seaman of Milwaukee to be surgeon general of the guard.

DR. A. B. JENSEN of Menasha, narrowly escaped injury on Nov. 4 when he attempted to guide his auto ahead of an approaching train. The engine struck the auto throwing the doctor into the gutter.

DR. J. H. HOGAN, Racine, has been appointed visiting physician to the Sunny Rest Sanatorium.

DR. F. F. NEWELL, Racine, is defendant in a \$2,000 damage suit brought by Dr. H. J. Burns, who claims that when he purchased Dr. Newell's practice at Burlington, the latter agreed not to re-engage in the practice of medicine within twenty-five miles of Burlington. Burlington is 24½ miles from Racine.

DR. EUGENE A. SMITH, has opened offices on the second floor of the Iron Block, 79 Wisconsin Street, Milwaukee, and will limit his practice to X-ray diagnosis and consultation in diseases and injuries of the bones and joints.

DRS. GUY H. HENIKA and W. E. MEANWELL,

both of Madison have enrolled as resident students in the courses in public health for doctors, recently offered by the University of Wisconsin college of medicine. These courses are offered with the idea of preparing public health officials for more efficient service.

DR. H. C. REICH, city health officer of Sheboygan, was rescued from drifting out into the lake in a disabled launch, by the life saving crew, on Nov. 3rd. Dr. Reich hired the launch to go out and take samples of lake water at the end of the intake pipe.

DR. D. M. MUNRO, Kenosha, had his license to practice medicine revoked, when he was found guilty of performing a criminal operation.

DR. M. P. RAVENEL, of the University of Wisconsin, was appointed chairman of the National Committee on Standard Methods for Bacterial Examination of Milk, by the American Public Health Association.

DR. C. W. HENNEY, has been elected city physician of Portage.

DR. G. W. STEELE of Red Granite met with a painful accident on November 6th. While entering the kitchen of the Central Hotel falling glass cut his face quite severely.

Alleging malpractice in setting a broken arm, Nicholas Kehoe was awarded \$1,500 in his suit against the estate of the late Dr. James Gibson, in probate court, at Janesville.

DR. S. H. RICHMAN, Racine, has been appointed instructor of operative surgery by the Board of Directors of Marquette University.

The Franklin School at Racine was closed on October 14 by order of the Board of Health, as eight cases of diphtheria had developed among the pupils.

St. Agnes Hospital, Fond du Lac, opened its new \$130,000 addition on November 10th.

Plans for the new Mt. Sinai Hospital to be erected at Twelfth and Cedar Streets, Milwaukee, by the Jewish Hospital Association, were submitted to the building inspection department on Nov. 2. It is estimated that the building will cost about \$150,000, and will accommodate about 100 patients.

Mayor Dan O. Head ordered the legal department to prevent the practicing of "traveling doctors" in Kenosha. The common council passed a resolution refusing to license traveling medicine shows.

A libel suit for \$100,000, the first of a series of seven or eight similar court actions, was filed in the United States District Court at Milwaukee on October 17th by former Mayor David S. Rose and Miles J. Devine, a Chicago attorney, against the Journal of the American Medical Association. The Plaintiff is Dr. Julius J. Meyer of New York, representative of the Friedmann tuberculosis serum interests in this country, who claims damages for an editorial which appeared in the American Medical Association's Journal on September 13, in which the Friedmann cure was branded as inefficient.

The Kenosha Manufacturers' Association has presented a first class X-ray machine to the Kenosha Hospital.

REMOVALS

- Dr. F. M. Bair, Omro to Lake Mills.
 Dr. C. M. Wahl, Spring Green to Madison.
 Dr. O. M. Layton, Fairwater to Fond du Lac.
 Dr. Arthur J. Batty, Portage to Beloit.
 Dr. A. J. Berger, Wales to North Freedom.
 Dr. Geo. M. Otto, Grand Rapids to Wausau.
 Dr. Max Trench, Dodgeville to Highland.
 Dr. Fred W. Leeson, Sharon to Beloit.
 Dr. Wm. H. Owens, Elcho to Sussex.
 Dr. Fred Johnson, North Freedom to Eau Claire.
 Dr. J. B. Atwood, Oconto to Burnett, Cal.
 Dr. Urban Schleuter, North Prairie to Grand Marsh.
 Dr. E. Puchner, Wittenburg to Lewiston, Idaho.
 Dr. A. S. Thompson, Franksville to Mt. Horeb.
 Dr. E. M. Rice of Algooma has disposed of his practice to Dr. D. B. Dishmaker, and has gone to Chicago to take up post-graduate work.
 Dr. C. W. Bennett of Oregon, one of the newly appointed deputy state health officers, will make his headquarters in Rhinelander.
 Dr. S. M. Kyes of Weyauwega has disposed of

his practice to Dr. L. A. Jeffery of Bourbon, Ind. He has not yet decided upon a new location.

Dr. A. F. Lyon-Campbell, who up to one year ago was located at Dunbar has opened an office at Peshtigo. Since leaving Dunbar the doctor has been traveling in Europe.

DEATHS

Capt. Armin Mueller, aged 34 years, died in Texas City, Texas, where he was stationed. Capt. Mueller was a member of the medical corps of the Sixth United States Cavalry. In a practice drill he was thrown from his horse, breaking his right leg and an infection set in causing his death. Capt. Mueller was a Milwaukee boy. He was graduated from the Wisconsin College of Physicians and Surgeons in 1901 and joined the cavalry about five years ago.

Dr. Corwin James Steele died at his home in Hustler on November 13th. Dr. Steele was born in 1859. He was graduated from Rush Medical College in 1888.

Dr. Edward E. Kalmerton, Milwaukee, died on October 27th after a weeks' illness with diabetes, aged 59 years. He graduated from Rush Medical College in 1887. He formerly resided at Oshkosh.

Dr. P. W. Keys, a former resident of Fond du Lac, is dead at LeRoy, Illinois, aged 75 years.

Dr. Oscar Chrysler, chief surgeon of the National Soldiers Home, Milwaukee, was instantly killed on October 29, by the explosion of a disinfecting apparatus. Dr. Chrysler was graduated from the Detroit College of Medicine in 1892. He was installed as assistant surgeon of the Home in 1892 and was advanced to the position of head surgeon in 1903. He was a member of the Milwaukee County and State Medical Societies.

Dr. William A. Jones of Oconomowoc died on November 1, at Milwaukee, death resulting from apoplexy following an operation for appendicitis. Dr. Jones was born at Lamartine, Fond du Lac County in 1858, and resided there until after his graduation in 1882 from Hahnemann Medical College, Chicago, when he came to Oconomowoc to practice and had since made that city his home. He was, until a few months ago, postmaster at Oconomowoc. He was a member of the Waukesha County and State Medical Societies.

Dr. G. W. Jenkins, Kilbourn, died on November 6, aged 89 years. Dr. Jenkins was born in Duanesburg, N. Y., September 19, 1824, and was a graduate of the Medical Department of Columbia College, New York, 1851. In 1851 he came to Milwaukee and from there to Delton, where he began the practice of medicine. He located in the village of Kilbourn in 1862. He retired from active practice 14 years ago. He was a member of Columbia County and the State Medical Societies.

OPENING OF A NEW EYE HOSPITAL.

The *Herman Knapp Memorial Eye Hospital* has opened its doors in its new location, at the southwest corner of 57th Street and Tenth Avenue, New York.

The hospital was founded in 1869 by the late Dr. Herman Knapp, and under the name of the "New York Ophthalmic & Aural Institute" it has been in uninterrupted activity at 44 and 46 East 12th Street. During these forty-four years over 420,000 patients have been treated. The new building is a specially constructed seven-story fire-proof hospital building, with complete modern equipment for the treatment and study of diseases of the eye.

The Board of Trustees has deemed the occasion of its removal to a new building in a new location the proper time to change the name of the Institute in honor of its distinguished founder.

BOOK REVIEWS

THE FATE OF PATIENTS WITH PARENCHYMATOUS KERATITIS DUE TO HEREDITARY LUES. (Syphilis and eye. VIII. Communication.) Igersheimer, Dr., Halle a. S., *Sammlung zwangloser Abhandlungen aus dem Gebiete der Augenheilkunde*, by A. Vossius. Vol. IX., No. 4, 1.50 Mark, \$0.37. discusses in the first section the fate of the diseased eyes. 59.2% of 152 eyes, affected with Parenchymatous keratitis years ago, had good (from 5/4 to 5/10) or practically sufficient (from 5/15 to 5/25) vision, 40.8% poor vision. Only in 12 out of 35 patients whose both eyes had been affected, the one eye had a better vision than the other with 5/35. Hence the practical usefulness of both eyes and the prognosis are very poor, if one eye has V less than 5/35. 1/3 of the patients had myopia, which most probably was acquired. With regard to the earning power I. inquired of 77 patients by circular letters with the returns that 28 were not handicapped, 43 had suffered permanent, more or less considerable damage. The prognosis is more favorable in the young. The disease of the 2nd eye may reach the same degree as that of the first, but

very often the inflammation lasts a shorter time. Rise of tension is about as frequent as hypotony, but the application of atropin must be controlled by the tonometer. I. shows on a case that more attention must be paid to intraocular tension than heretofore. In 34 cases, i. e., 14%, relapses were observed, which, however, took a mild course.

In the 2nd section the fate of the whole organism is considered. Almost one-half of the congenitalluetics who had parenchymatous keratitis, showed some pathological signs of the nervous system, illustrated in tabular form. I. attributes great importance to Wassermann's reaction and shows on a table its results from 1 to 5 years, from 6 to 10 years, and more than 10 years, after the elapse of parenchymatous keratitis.

In the 3rd section I. discusses the question whether lues may be propagated to the 3rd generation. In 12 out of 28 children of congenitally luetic mothers suffering from parenchymatous keratitis, Wassermann's reaction was always negative. One case is reported of lues in children of the 3rd generation. The reinfection of congenitally luetics, however, must not be neglected. This is illustrated on a case of certain reinfection in a man, aged 22, who had congenital lues.

From practical experience and theoretical considerations I. concludes that parenchymatous keratitis occurs only in florid lues and this ought to be fought against before the corneal affection sets in. If keratitis has once developed specific and other remedies are of little avail, but the antiluetic treatment must be very energetic for preventing relapses, affections of the body, especially of the nervous system which often are ascertained after the elapse of the corneal affection, and the rare propagation of syphilis to the 3rd generation. Even after the ocular affection is cured the treatment must be continued in intermissions, until the symptoms of lues, especially the positive Wassermann's reaction, have permanently subsided. The valuable essay will be read with great interest.

C. ZIMMERMANN.

THE ACTION OF DRUGS AND POISONS ON THE EYE. Lewin, L., Dr., Prof., Berlin, and Guillery, H., Dr., Ophthalmic Surgeon, Coeln. "Die Wirkungen von Arzneimitteln und Giften auf das Auge. Handbueh fur die gesammte aerztliche Praxis." 2nd enlarged edition. Vol. I., 736 pp. with 6 figures in the text, Vol. II., 857 pp. with 6 figures in the text. Berlin, 1913. August Hirschwald. 38 Mark, \$9.50. In our review of the first edition a detailed analysis was given of this fundamental work and its great value emphasized, to which we beg to refer. This was further substantiated by its very favorable reception and the extensive utilization of it in literature. On account of the immense field, so completely and critically covered by the book, we find it quoted in nearly every recent ophthalmological work of importance. Thus the hope of the authors, expressed in the preface to the first edition, that the work will give new foundations and be an incentive to further investigations had been amply fulfilled. The theoretical and clinical observations on the actions of drugs and poisons on the eye have been greatly augmented within the last

7 years and have been fully and critically considered in the new edition. Here again, in view of the recent activity in pharmacology and toxicology, based less on facts than on mere speculations or erroneous clinical views derived from inaccurately observed cases, the authors made it a point to bring into the foreground a large material of facts, which allows of drawing sufficiently certain conclusions. On the other hand a certain beneficial condensation has been accomplished with regard to the casuistics and by the freer use of smaller print, so that the volumes lost in bulk but gained in contents.

After a general introduction on disposition to disease, which is defined as acquired or congenital disturbance in the chemical composition of the cell, on the origin of ocular affections, on the metabolism of living tissue, reception, distribution and excretion of chemical exogenous matter in the different parts of the eye, the mechanism of intoxications of the eye, the subject-matter is divided into three sections: 1. Substances paralyzing the nervous system; 2, exciting the nervous system; 3, substances which chemically or physically influence the metabolism of the living albumen. In the first section are considered the inhalation narcotics. Then follow, under the hypnotics, morphin, chloral hydrate, sulfonal, etc., and, under local anesthetics, cocain. The authors found in all their experiments except one that pure cocain had no deleterious effect on the epithelium of the cornea, while this occurred when the various salts of cocain were used. In corneal opacities, observed after the combined application of corrosive sublimate and cocain, the former prepares the road for the action of the latter. Holocain is not an indifferent substance for the cornea, as generally supposed. It certainly is a mortifying poison for the epithelium of the cornea of the rabbit.

Of the local mydriatics, atropin is given a large space. Atropin-glaucoma and atropin-conjunctivitis are minutely discussed. The authors see in the latter nothing but a drug exanthem, and in support of their view, mention analogous affections of mucous membranes, brought about by atropin and various preparations of belladonna. It has nothing whatever to do with the presence of micro-organisms in atropin solutions.

Of the substances, exciting the nervous system, the actions of aethyl and methyl alcohol on the eye are well portrayed, followed by chapters on coffee, tea, etc., the spasmodics, strychnin, brucin, etc., and myotics, physostigmin, pilocarpin, arecolin, etc.

In the last section the metalloids, metals and acids are considered: iodin, iodoform, arsenic, phosphorus; the toxins of meat, sausage, fish, mollusks, blood, etc., then pellagra, hay fever, thyreoidin, after the use of which optic neuritis has sometimes been observed, poisons, producing opacities of the lens, as naphthalin, naphthol, socale cornutum, salts, sugar, menthol, etc., and blood poisons: carbonic oxid, anilin, acetanilid,

nitrate of ethyl, sulphur, etc. After general remarks on irritation of the eye by foreign bodies, the animal poisons are set forth: 1. Such as enter the eye with a foreign body and remain with it in the eye, as the hairs of caterpillars, the stings of bees and wasps. 2. Animal poisons which, with a foreign body, penetrate the eye and remain in it without the former (ants, spiders, scorpions). 3. Poisons infesting the eye as such without foreign body, cantharides, meloö, blatta, toads, salamanders. 4. Substances poisoning the eye after entering the circulation, hemosporida, malaria, aphidina, nematodes, cestodes, serpents. 5. Epizoa and entozoa of the eye.

The larger part of the second volume is devoted to the fungi pathogenic to the eye and represents a complete bacteriology of the eye. It is preceded by a very lucid introduction, setting forth the authors views on the action of fungi, which materially differ from those in vogue, and, like a dominant motive, pervade the special chapters. Three groups of morbid changes of the visual organ which may be brought into etiological connection with the action of germs are distinguished: 1, those due to a local infection; 2, not only to local, but also to a general infection of the body and secondary absorptive processes, and 3, due to the latter only, excluding ectogeneous infection. Of the chronic and acute infectious diseases merely those are considered, the causes of which are attributed to certain micro-organisms.

In the seventh chapter poisons of inflammatory and escharotic actions on the visual organ are discussed, as products derived from certain plants, inorganic and synthetic substances, acids, metals, alkalies, antipyretics, antiseptics and anthelmintics, etc.

The literature is extensively and critically utilized and an abundance of abstracts of recorded clinical histories is added to each section.

This partial enumeration of subjects will show what an immense material is here collected. The authors have faithfully adhered to the task set out in the preface and have accomplished it admirably. It is a most conscientious work, the result of many years of study and original research. The book is not simply a dry collection of facts, but is written in a most pleasing and fascinating style, so that whichever chapter one looks up, one feels anxious to read it through. It is exceedingly practical, since it not only gives the symptomatology of intoxications on the eye and other organs from experimental and clinical observations and the pathological anatomy, but also the treatment.

Tables of contents precede each volume, and a very carefully prepared index is added to the 2nd volume. The elaborate work, the most exhaustive of its kind, is of the greatest value not only to ophthalmology but also to general medicine, and in its new form will surely receive the same well deserved hearty welcome as the first edition.

C. ZIMMERMANN.

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SOCIETY PROCEEDINGS

DODGE COUNTY

Meeting of the Dodge County Medical Society was held at Minnesota Junction on October 24, 1913. Meeting called to order at 11 a. m. by vice-president Hallock. Minutes of previous meeting read and approved. Application for membership of Dr. Skwor of Neosha was presented and duly referred to the board of censors for approval. Meeting adjourned at 12 o'clock for luncheon which was served at the Maple Shade Hotel. Meeting called to order at 2 o'clock and the following members were present: Drs. Hallock, Schwalback, Krahm, Webb, North, Skwor, Panetti, Brooks, Bachhuber, Sears, Connell and Elliott. Dr. Connell of Fond du Lac gave a most interesting talk on Tuberculosis of the Kidney and showed pathological specimens of tubercular kidneys which he had removed. He covered all the practical points from a surgical standpoint and also elucidated many diagnostic points that were of special interest to the general practitioner. The discussions were freely entered into. Upon motion by Dr. Webb a rising vote of thanks was accorded Dr. Connell for his presentation of this subject to our Society. Upon motion meeting was adjourned.

E. S. ELLIOTT, *Sec'y.*

KENOSHA COUNTY

The regular meeting of the Kenosha Medical Society was held at the Hotel Kenosha, Friday evening November 7th with twenty-three members present. Drs. J. B. Spaulding and M. A. Bernstein were the hosts for the evening. Dr. Nelson M. Percy of Chicago addressed the Society on "The Open Treatment of Fractures with Lane Plates". He reviewed 106 cases which he had operated upon during the last two years with most excellent results. Dr. Percy's experience proves that absolute aseptic technic is most essential; also that plates should never be placed subcutaneously if it is possible to avoid doing so. He does not believe that plates should be placed on all or even most fractures, but that they should be reserved for long bones where the probability is strong that they can not be retained in position by the usual splints. Following the address a chicken dinner was served. Dr. Thad. W. Ashley was voted into the Society. He came by transfer from Sangamon County, Illinois.

ROCK COUNTY

Rock County Medical Society held its regular meeting on Oct. 29th at the City Hall at Janesville. Twenty-five members attended. After the business meeting Dr. E. E. Iron of Chicago gave an instructive lecture on "Serums and Bacterins". Among the out-of-town members present were Drs. Evans of Evansville, Connell and Andrew of Beloit and Shearer of Edgerton.

OSHKOSH MEDICAL CLUB

The Oshkosh Medical Club resumed its activities for the season with a duck dinner at Winneconne on October

15. The dinner was served at the Wolf River House to the members of the organization, their wives, and a few guests, numbering about forty in all. Dr. F. G. Connell acted as toastmaster. Dr. W. N. Linn is secretary-treasurer of the organization.

ABSTRACTS

A CONTRIBUTION TO THE RELATIONS BETWEEN INFECTIOUS DISEASES AND VISUAL ORGAN. Rusche, W. (From the eye clinic of Prof. A. Vossius in the University of Giessen. *Zeitschrift für Augenheilkunde*, 30, July, 1913, p. 10.) Out of 253 cases of optic neuritis due to infectious diseases observed by Vossius only 3 were caused by scarlet fever. R. reports one in a child, aged 7. The first symptoms of the disease set in 6 weeks before the rapid failure of sight, which was noticed 3 days previous to admission. The ophthalmoscopic changes consisted in haziness of the papillary borders, great tortuosity of the well filled veins and prominence of the right disc. The urine was free from albumen. The affection was cured with normal vision, but marked pallor of the temporal portions of both discs.

In the second case, a severe inflammation of the uveal tract occurred in a woman, aged 50, afflicted with acute articular rheumatism, with exudations in the pupillary area and vitreous and shrinking of the eyeball and death. The knee joints contained streptococci. Whether the eye affection was due to infection from streptococci or also from bacilli of paratyphus and bacterium coli could not be decided. The cases corroborated the general view, that severe ocular complications of rapid course give, a very bad prognosis *quoad vitam* for the general disease.

C. ZIMMERMANN.

TO THE PATHOGENESIS OF AMBLYOPIA FROM METHYL ALCOHOL AND ATOXYL. SOME EXPERIMENTS TO THE PATHOLOGY OF THE LIGHT SENSE. Igersheimer, Halle, and Verzar, F., Budapest. (From the physiological institute of the late Prof. J. Bernstein in the University of Halle. *Archiv für Augenheilkunde*, 75 p. 27.) So far these intoxications could be observed only at the acme, as the patients do not come earlier for medical aid, and in experiments only anatomically. In order to gain an idea of the condition of the retina at the commencement or during the course of the intoxication in life, the authors studied the light sense of the animals according to the classical investigations of C. Hess, (*Archiv für Augenheilkunde*, 57, p. 302), and report their experiments with methyl alcohol on 6 chickens and with atoxyl in 5 chickens. Methyl alcohol produced a transient or a gradually increasing diminution of the light sense. The authors do not venture to decide whether this is due to changes of the retina or a symptom of cerebral exhaustion.

After injection of atoxyl the light sense remained normal, but typical changes of the cells of the inner retinal layers corroborated the former investigations that atoxyl chiefly damages the optical ganglia.

C. ZIMMERMANN.

NEW CONTRIBUTIONS TO RHINOGENOUS INFLAMMATION OF THE OPTIC NERVE. Paunz, M., Budapest. (From the eye clinic of Prof. Emil von Grosz in the University of Budapest. *Archiv für Augenheilkunde*, 75, p. 76) reports 4 cases with the characteristic symptoms pointed out by P. in 1908, (*Archiv für Augenheilkunde*, 51): Vision failed rapidly with the central scotoma for colors as the first sign and acute or chronic inflammation or empyema of the posterior nasal sinuses could be ascertained. After the retention of the secretion was removed vision soon returned, with disappearance of the almost regularly observed central scotomas for colors and the ophthalmoscopic picture of optic neuritis. In one case the optic neuritis healed rapidly without operation after spontaneous evacuation of the secretion. Although the acute inflammations and suppurations of the accessory sinuses in most cases healed spontaneously, P. considers it not correct in cases of optic neuritis from the retention of secretion in the posterior sinuses to wait long for a spontaneous cure and on account of the gravity of optic neuritis and the harmlessness of the operation recommends exploratory opening in doubtful cases.

C. ZIMMERMANN.

DYSTROPHY OF THE CORNEA IN TABES. Fuchs, Ernst, Wien. (*Centralblatt für prakt. Augenheilkunde*, 37, August-September, 1913, p. 260.) A man, aged 38, had a chancre in 1893, but no secondary syphilitic symptoms, 1902 diplopia and inequality of the pupils for 3 weeks, 1905 gastric crises, 1911 edema of the legs and herpes zoster of the trunk, and in 1911, when he came to Fuchs, hyperesthesia of the skin, an ulcer on the right leg of peculiar appearance, no patellar reflex nor of the Achilles tendon. Wassermann was positive. V. commenced to fail in 1909. The pupils were enlarged, the right more than the left, did not react to light and scarcely on convergence. V. R. fingers in the lower nasal quadrant, V. L. 5/18 with a temporal hemiopic visual field. Both discs were pale.

The cornea was perhaps a little hypesthetic, the lower quadrant slightly opaque from very fine grey brownish dots in the deepest layers, i. e., degenerations which F. attributes to tabes. The fact that the border of the temporal visual field was a sharp vertical line, and that the borders for red and white coincided, was not in concordance with the ordinary contraction of the visual field in tabic atrophy. F. considered it as true tabic degeneration located in the chiasm, not in the optic nerve. Against the assumption of a leucic, instead of metalucic, affection of the chiasm spoke that the long continued antiluetic cures were not able to arrest the failure of sight. The affection of the cornea resembled somewhat the changes described by Kayser, Fleischer and Sahn and brought in connection with disseminated sclerosis or by Fleischer with pseudosclerotic foci.

C. ZIMMERMANN.

CHOKED DISC AND PARALYSIS OF THE ABDUCENS IN CHLOROSIS. Meller, J. (From the eye clinic of Prof. E. Fuchs in the University of Wein, *Centralblatt für prakt. Aug.*, 37, August-September, 1913, p. 271.) A girl, aged 14 years, complained 9 weeks ago of headaches in the temples, followed a few days later by impairment

of vision and diplopia. The discs were swollen to 4.00 D., showed a few hemorrhages. Around the macula were white dots arranged in radial stripes towards the disc in both eyes. The urine was normal, but the amount of heoglobin of the blood was reduced to 40%. Under iron, Fowler's solution, rest cure, the general condition was greatly improved. The paresis of the abducens disappeared in 2 weeks, and also the affection of the optic nerves improved. After 2 months the discs were pale, but V. and visual field normal. The same condition was noticed 10 years later.

The complex of symptoms, choked disc and unilateral or bilateral paralysis of the abducens, received a special feature by the fact that never other ocular muscles are affected, and suggests their near relation. It has been observed in chlorosis, otitis media, after severe losses of blood and extraction of teeth, and has been explained by the assumption of thrombosis in the cavernous sinus with which the abducens is in intimate relation. In chlorosis a great tendency exists to coagulation of the blood and thrombosis. Thus thrombosis of the central retinal vein has been observed in chlorosis. The opinion of Ballaban, that some cases of optic neuritis with anemia may be interpreted as venous thrombosis, is not improbable, if they are complicated by extensive retinal hemorrhages. The prognosis of the affection of the optic nerve in chlorosis is good, if the patient received proper treatment early. If the general condition is weakened by energetic cures with mercury and iodine, the process may terminate with severe visual disturbances or even blindness.

C. ZIMMERMANN.

BLUE SCLERA AND FRAGILITY OF THE BONES. Peters, A., Rostock, (*Klin. Mon. für Aug.*, 1. May, 1913, p. 594), showed in 1908 that the blue sclera may occur by attenuation of the sclera as a hereditary congenital anomaly. Further communications by Eddowes, Burrows, Dighton, and Rolleston, called attention to the fact that this ocular anomaly may be associated with marked fragility of the bones. At this instance P. inquired into the history of his former patients and found this corroborated. He assumes with Eddowes a hereditary lesser development of the fibrous tissue, which cannot be therapeutically influenced. He considers it, however, of practical prophylactic importance, to pay more attention to the connection between blue sclera and fragility of the bones, and to dispense such patients from military service or athletics.

C. ZIMMERMANN.

EDEMA OF THE CORNEA AFTER DELIVERY WITH THE FORCEPS. Fejer, J., Budapest. (*Centralblatt für prakt. Augenheilkunde*, 37, Juni, 1913, p. 164.) A child, aged 4 weeks, who had been delivered with the forceps, presented a fine opacity of the center of the right cornea, about 3mm. long, 1.5 mm. wide, which according to the mother the opacity was at first larger. The epithelium had normal lustre. The ocular conjunctiva at the temporal limbus was loose and showed a few eechymotic spots. It gradually disappeared.

C. ZIMMERMANN.

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ORIGINAL ARTICLES

SOME PROBLEMS IN BONE SURGERY.*

BY J. M. HITZROT, M. D.,

ATTENDING SURGEON NEW YORK HOSPITAL, ASSOCIATE IN
SURGERY IN CORNELL UNIVERSITY MEDICAL SCHOOL.

NEW YORK.

Mr. President and members of the State Medical Society of Wisconsin:

In presenting this paper to your society, the speaker can promise little light upon a very interesting subject, but hopes to bring before you some of the disputed questions regarding bone regeneration and the fate of the transplanted bone.

For a better understanding of the nomenclature used in describing the various portions of the bone, it will be necessary for us to review briefly the anatomy of the normal bone.

The periosteum, composed of three layers, an outer fibro-vascular layer, a middle layer made up of interlacing fibrous tissue bundles containing many elastic fibers and lymph spaces, an inner layer composed of delicate bundles of fibrous tissue and embryonal cells or osteoblasts, covers the shafts of the long bones. This inner or osteogenetic layer of the periosteum contains blood vessels which communicate with the marrow during the embryonic development of bone and is an important factor in the formation of the shaft of the long bones during the period of fetal development. As the growth of the bone proceeds from the ossification of the cartilage in the juxta-epiphyseal region, this inner layer becomes less and less important until it is finally reduced to an inconspicuous stratum after the bone has ceased growing.

The cortex is formed of compact bone laid down in lamellae of more or less concentric layers of bone through which ramify the canals of the Ha-

versian systems and the Volkmann's canals. The Haversian canals contain connective tissue, blood vessels, lymph spaces, and possibly nerves. The canals described by Volkmann are found in normal bone and are formed by the enclosure of pre-existing blood vessels by the calcifying lamellated bone. They carry capillary anastomoses between the vessels of the Haversian systems, and intercommunicate with the Haversian systems and the periosteal vessels on the one side and the Haversian vessels and the vessels of the medulla on the other side. The above description of Volkmann's canals is consistent with that observed by Axhausen and seems much more likely to be the correct interpretation of the formation of these canals than that of Kassowitz, Pommer, Busch, or Muralt.

The end-osteum lines the marrow cavity and the trabeculae of the marrow and is composed of a fine connective tissue membrane upon which is found a layer of more or less polygonal cells with large nuclei—the so-called endosteal osteoblasts.

As Macewen has so aptly stated, "bone is living and as every living tissue requires renewal, bone is constantly undergoing absorption and replacement." It strengthens itself to arrange for increased stress and strain as demonstrated by Wolff and the shape of any given bone so moulds itself that it may sustain any peculiar occupational muscular strain called into being by a constant form of muscular energy.

The part taken by the various portions of the bone in this process of absorption and replacement, the reaction of the component parts of the bone to various stimuli, and the share each may take in the process of regeneration, is not however so clear.

Much experimental work has been undertaken to settle the various questions in the process of bone regeneration, without, as yet, any definite conclusions. By that is meant that differences of opinion have resulted from the observations of different experimenters working under conditions

* Annual Address in Surgery, presented at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, October 2, 1913.

which are seemingly quite similar.

The literature is voluminous and in many respects contradictory and it would be almost as well as unprofitable to attempt to refer to all of the experimental results, therefore the speaker has chosen to refer only to a limited part of that literature because of those two factors.

Ollier concluded from his experiments that regeneration of bone took place from the cells of the marrow, the Haversian canals, and the osteogenetic layer of the periosteum, to which layer he attached especial importance.

Barth from his experiments concluded that all the transplanted bone, whether with or without periosteum, died, and that regeneration took place from the surrounding bone, that is, the transplant merely acted as a frame work.

Axhausen declared that neither Barth nor Ollier was entirely right in his conclusions. He concluded that of the living transplanted bone covered by periosteum, the periosteum and the marrow lived, while the cortex died, and that the replacement of the bone took place partly from the marrow but chiefly from the periosteum of the transplanted bone.

Frangenheim concluded that a greater part of the transplanted bone dies but that a certain number of the bone cells remain alive, that the periosteum had a slight influence in the production of new bone, but that the bone thus produced was relatively quite insignificant.

Macewen as a result of his experiments and observations, relegates the periosteum to the position of a limiting membrane to the growth of the osteoblasts and ascribes no osteogenetic properties to it. When osteoblasts are found in the areolar layer of the periosteum, they are, according to Macewen, the result of stimuli applied to the shaft of the bone, and such stimuli cause an increase of osteoblasts within the Haversian systems whenever they migrate to the periosteum. They accumulate at first around the blood vessels issuing from the Haversian canals and afterward spread through the loose areolar tissue surrounding the zone of bone irritation.

Regeneration of bone from his observations, is due to interstitial change in the shaft of the bone. The imbedded bone cell softens its surrounding calcareous matrix, proliferates, enters the Haversian vessels and migrates from there to a zone of least pressure, i. e. the loose periosteal areolar

tissue, to produce new bone. He furthermore states that regeneration in the transplant is due to this interstitial capacity for reproduction in the bone cells of the diaphysis and the periosteum plays no part in the new formation of bone other than to limit the bone formed by these diaphyseal bone cells.

Cotton and Loder state that they believe that the essential process of aseptic repair in bone is due to the proliferation of the endosteum, that new bone in the graft is laid down by the proliferation of the osteoblasts of the endosteum in all portions of the graft both center and periphery. They admit that some of the osteoblasts may have migrated from the host bone.

Trinci and Bonnome found that free transplantation of the periosteum gave rise to bone formation in dogs and rabbits.

Poelhammer found that teased pieces of the whole periosteum gave rise to bone formation. Jokoi found that an emulsion of periosteum injected subcutaneously or intra-muscularly gave rise to bone in six out of ten experiments. Fresh blood in his experiments did not increase the amount of bone formation but when fibrin was used there was a marked increase in the newly formed bone.

Haas in a very interesting set of experiments to determine the importance of the periosteum in bone repair and regeneration, came to the following conclusions: that periosteum, especially in the presence of blood clot, has the power to regenerate bone, that the regeneration of bone is not solely dependent upon the presence of pre-existing bone, that regeneration of bone was never found except when periosteum was present.

Murphy in a very comprehensive article on this subject concludes that the periosteum in a young individual may form bone in free transplantation in the same individual; periosteal strips, elevated at one end of the bone but attached to the other, form bone on the under surface when turned into muscle or fat; bone with or without periosteum transplanted in contact with living bone at one or both ends always becomes united to the living fragments and acts as a scaffolding for the reproduction of new bone, the transplanted fragment is always absorbed and merely acts as a mechanical support to the blood vessels and osteoblasts as they advance from the living bone into the Haversian canals of the transplant.

From this mass of evidence one may deduce that the conditions under which bone regenerates either vary materially or that the various observers have given more attention to the action of certain specific portions of the bone in the process of regeneration. Some confusion possibly occurs from a difference in nomenclature in the periosteum. Macewen and his followers describing the cambium or osteo-genetic layer of other writers as a part of the cortical bone.

In the process of repair in bone after fracture more unanimity exists as to the development of the callus and its origin, yet here also are found wide variations in the interpretation of the origin of some portions of the newly formed bone.

Macewen is consistent in his belief that in fracture also, the periosteum acts only as a limiting membrane to the osteoblasts arising from the cortex and has no other function in the healing process. When the periosteum is torn the osteoblasts are poured out into the surrounding tissues to form free osseous deposits outside the bone.

Dupuytren has divided the repair of fractured bone into five stages based upon the macroscopic findings.

1st stage—from the first to the tenth day. Engorgement of the surrounding soft parts and bone with blood. Absorption of the coagulum between the fragments and the formation of a viscid gelatinous material between the ends of the fragments. The medulla assumes a reddish fleshy appearance and becomes swollen and hardened.

2nd stage—from the tenth to the twenty-fifth day. Assumption of a definite shape by the callus, the surrounding tissues separating from it. The callus is composed chiefly of cartilage. The medullary membrane obliterates the medullary canal. The whole mass constitutes the provisional callus.

3rd stage—from the twentieth to the sixtieth day. Conversion of the cartilage of the provisional callus into spongy bone. Up to the end of this stage there is no union between the ends of the cortical fragments.

4th stage—from the sixtieth day to the sixth month. The formation of the permanent or definite callus. The spongy bone condenses to compact bone and the medullary canal becomes obliterated by osseous tissue of varying density. The tissue between the ends of the cortical bone loses its reddish color, becomes firmer and gradually ossifies.

5th stage—from the fourth to the eighth, or the sixth to the twelfth month. Final absorption of the callus with the re-establishment of the medullary cavity and the completion of the process of repair, i. e., union is complete.

Wieder following the idea of Dupuytren, divides the period of regeneration in fracture into five stages also, but considers that more accurate division of the process can be made from both the macroscopic and the microscopic examinations of the fractured area.

1st stage—from the first to the fourth day. The period of infiltration. Free hemorrhage from the soft parts, bone and medulla. The blood loses its corpuscular character within 48 hours. Formation of fibrin, first as a loose network and then in dense masses, (the gelatinous material of Dupuytren). Infiltration of all the tissues by leucocytes which disappear about the fourth day. Cellular proliferation of the deeper layers of the periosteum and in the medulla.

2nd stage—from the fourth to the twelfth day, the period of temporary callus formation. Gradual absorption of the exudate from the soft parts and its replacement by connective tissue. The periosteum becomes thickened and large polygonal cells appear in its deeper layers which secrete a homogeneous matrix, at right angles to the cortex. Later this matrix becomes calcified to form osteoid trabeculae upon which are found a layer of cells, i. e. osteoblasts. The spaces between the trabeculae become vascularized and medullary spaces are formed. Near the site of the fracture the periosteal cells are imbedded in a homogeneous matrix which is hyaline in character and does not appear in streaks. It shows no tendency toward calcification and is probably the earliest stage of cartilage formation.

The endosteum undergoes a change similar to the periosteum with the formation of osteoid trabeculae at a distance from the line of fracture. The medulla becomes more cellular with a decrease in the fat cells. The callus is fairly well established at the end of this period and consists of osteoid tissue on both fragments with cartilage at the line of fracture on the periosteal side, fibrin and connective tissue between the ends of the cortex, and osteoid tissue in the medullary cavity.

3rd stage—from the twelfth to the eighty-fifth day, the stage of re-organization. Augmentation of the callus where it is most needed and ab-

sorption where it is not required. Osteoclasts and osteoblasts appear side by side, the former causing absorption while the latter strengthen the weak places. The deeper portions of the periosteal callus become channeled in a direction parallel to the old cortex while the superficial portion increases in density.

Across the line of fracture in the cortical bone there is no osteoid tissue but merely dense connective tissue with occasional masses of cartilage. Absorption of the cortical bone and the medullary trabeculae by the osteoclasts with the formation of wide spaces which communicate freely with the spaces between the newly formed periosteal and medullary trabeculae.

4th stage or stage of permanent callus formation, eighty-fifth to 280th day.

Extensive absorption of the callus with the re-deposition of denser bone in the dilated spaces and the appearance of distinct lamellae in the new bone. Appearance of osteoid tissue across the line of fracture in the cortex. This osteoid tissue is at first porous but gradually increases in density until it eventually becomes denser than the normal bone.

Wieder did not continue his experiments to include the 5th stage described by Dupuytren but believes that there is such a stage. He points out that in fractures that had united perfectly there is, up to the third month, nothing but cartilage or connective tissue across the line of fracture. In his specimens cartilage was always found on the concave side of the fracture with the apex of the triangular mass at the line of fracture and its base at the periosteum. On the endosteal side, the cartilage showed no such characteristics or constant appearance but was present in irregular masses especially near the line of fracture. Wieder considers the most rational explanation of the appearance of cartilage in the process of repair is that it is due to defective nutrition and an insufficient blood or lymph supply to carry lime salts to the newly formed tissue so that osteoid tissue may be formed at once. Angularity with improper fixation of the fragments is the most important factor and produces this impairment of nutrition by increasing the amount of inflammation in the surrounding parts and its consequent fibrosis.

Zondek investigated the formation of the callus in experimental fractures of the hind legs in mice and found that the process of repair takes place from the periosteum and the endosteum and that

the cells of the cortical bone have a relatively slight part in the repair process. He states that while cartilage was constantly present on the periosteal side it was rare to find it in the newly formed endosteal bone.

To this existing confusion, my results do not as yet offer any solution, but in so far as the regeneration of the bone in fracture is concerned my experience, both clinical and experimental, shows that in the healing of the bone after fracture the periosteum and the endosteum are the chief factors in the process of repair, and that the cortical bone has a relatively slight, if any, function in the formation of the new bone tissue, as I hope to demonstrate by the slides to be shown later.

The amount of bone formation varies widely and is dependent upon many different factors not all of which are clear but as shown by Wieder, Zondek, and in my experiments, is most marked on the concave side of the bone and in most cases arises from the periosteum. None of the sections I have examined show any degree of softening of the cortical bone sufficient to explain the very considerable amount of newly formed bone which one finds on the periosteal and endosteal side of the fractured cortex during the early stage of newly formed bone, i. e. from the 4th to the 20th day. Nor have any of the sections shown the increased cellular content of the Haversian systems one would naturally expect to find if the chief origin of the osteogenetic cells was due to the interstitial proliferation of the bone cells of the cortex.

My work and the information derived from it so closely resembles that of Wieder that to repeat it at length would paraphrase his findings as already given. It does seem wise to point out the similarity of the repair process in the simple connective tissues and in bone, i. e., we find a stage of exudation, a stage of production and absorption, and a stage of retrogression in which the newly formed bone is denser, less vascular, and less cellular than the normal (compare the similarity of this process to that of scar formation in the soft tissues.)

The most important factor in the stage of exudation is the formation of fibrin. When infection, encapsulation of fluid blood at the site of fracture, or other factors prevent the formation of this fibrinous framework the healing of bone is distinctly retarded or even absent.

The stage of production and absorption is characterized by the absorption of the fluid portions of the exudate and their dissemination by and through the soft parts. Production of new cells begins in the medullary portion of the bone, in the periosteum, and in the soft parts adjacent to the fracture. Absorption of the cortex begins and is most active on the endosteal side. Production and absorption now progress side by side until the newly formed trabeculae become parallel and practically continuous with the eroded and enlarged Haversian canals and trabeculae of the cortex and then the stage of retrogression takes place. Bone becomes deposited with more or less rapidity in the large medullary spaces until we have a denser, harder bone than that which is found beyond the zone of irritation, i. e. in the normal bone. Osteoid tissue does not appear at the site of fracture until the rearrangement of the periosteal and endosteal trabeculae is complete and one finds only connective tissue in the region of the fracture until quite late in the repair process.

From these observations it was obvious that the periosteum and the endosteum are the important factors in the repair of bone after fracture, and with this information an investigation was begun to determine the relative importance of these two structures in the free transplantation of bone into the same individual. Serological problems offer too many difficulties to make heterogenous grafts advisable. Owing to a long interruption my results are as yet too fragmentary to report in detail and only a preliminary report of my conclusions will be made in this paper.

The factors of importance as far as my work has carried me point to a like participation of the periosteum and endosteum in the regeneration of the bone graft. In the young the periosteum is more active than in the fully grown animal.

Four main types of investigation were proposed.

1st group: Bone, with periosteum attached and sufficiently long to extend beyond the line of contact between the graft and the host bone and with endosteum on its inner aspect, was used as a graft. All the diaphysis and its periosteum removed for a distance corresponding to the length of the graft. Graft placed in contact with bone at both ends and the periosteum of graft stitched to that of host bone.

Bearing in mind the time of appearance of the

newly formed bone in the investigation of fractures the graft was investigated between the 12th and 20th day. Newly formed osteoid tissue was found beneath the periosteum and on the medullary side of the graft. The most bone was present at the points of contact with the host bone. Osteoclasts were numerous on the medullary side of the graft. No evidence was found that the cortex took any other part than that of a framework and in so far as could be determined, there was no increase in the cells of the Haversian canals at this period, i. e. the results obtained were comparable with those formulated by Axhausen that the cortex dies and the periosteum and endosteum regenerate bone.

Too many osteoblasts were present in the periosteal and endosteal tissue to explain the migration of the entire mass from the host bone.

In this group are found my most successful grafts, only one failure occurring, that being a clinical case in which insufficient support and a fall caused a fracture of the graft and its absorption resulted.

2nd Group: A. Periosteum with a thin scale of cortical bone attached when transplanted in contact with the living bone, forms new bone. The bone formation occurs from the periosteum and is most marked at the points of contact with the host bone. Giant cells (osteoclasts) appear on the side of the scale of bone and erode that bone until it is replaced by the newly formed bone. It is not so clear in this type as to the origin of the osteoblasts beneath the periosteum, as the growth of bone proceeds from both ends towards the center, a fact I cannot yet explain.

B. Periosteum without any bone attached. Here probably is found the greatest number of variations in the result of free grafts; and I do not feel that the degree of variation has been sufficiently studied by me to give any more definite statement than that the periosteum forms bone in more than fifty per cent of the cases. Variation in the bone forming power of the periosteum has shown a wide variation even in a similar type of operation upon two bones in the same animal, i. e., an attached periosteal flap from the radius put into muscle produced some bone along the inner half of its detached surface, a similar flap raised from the tibia of the same animal produced no bone— (This of course could, from Macewen's standpoint, be said in the one case to be due to scales of bone

removed with the periosteum, and I hope to eliminate that feature, if possible, by future experiment.)

3rd Group. Cortex without periosteum or macroscopic endosteum, i. e., the chisel did not cut deep enough to enter the medullary canal.

In four clinical cases, all four were failures. One case failed because of a low grade infection, and the graft was extruded practically unaltered on the 28th day. In the other three cases, no new bone formation occurred, but the grafts were absorbed. At a second operation, the region of the graft was occupied by dense fibrous tissue with no osteoid tissue. In two of these cases a periosteocortical-endosteal graft is showing new bone formation (Radiograph), the third case has been lost, i. e., it did not report for observation.

In one animal experiment, the graft became fused to the host bone and new bone was formed at each end. No interstitial change was found at the center of the graft, although there was some evidence of erosion by giant cells (foreign body cells or osteoclasts, I cannot now say which).

Here we have a difference in the failure of a clinical result with a positive result experimentally, which I believe, may be explained by the pathological change in the human tissue, following infection and an insufficient nutrition to allow for the ingrowth of new bone cells from the points of contact.

4th Group: Cortex with endosteum on its inner aspect. This set of experiments is as yet uncompleted, but in as far as my observation has gone fusion has occurred with the host bone more rapidly than it occurred in group three.

In one case, following the suggestion of McWilliams, in which the rib was used as a graft, failure occurred and the graft was absorbed.

In conclusion, my experience leads me to hold to the view advocated by Axhausen, that the best graft is one covered by periosteum and with endosteum on its inner surface; that there is a wide variation in the results obtained by the free transplantation of the periosteum, which depends upon a number of factors which influence bone formation in the periosteum, such as age, the presence of blood and fibrin, which can be readily demonstrated; and certain other as yet undetermined factors which seemingly cause a failure of bone production by the periosteum under apparently identical conditions; and that the endosteum is

as important a factor in the regeneration of the transplanted bone as it is in the healing process in fracture.

THE SPASMOPHILIC DIATHESIS.*

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At a season when evidences of the spasmophilic diathesis are comparatively frequent, a review of the condition with case histories illustrating various phases should prove of interest. Ibrahim¹ has stated that at different periods of the year fully 30% of all infants show evidences of this diathesis. We have not found the condition so prevalent in the past, largely because we failed to recognize that spasmodic croup, convulsions, tetany, spasmodic apnea, and epilepsy were not always entities, but often only manifestations of the underlying condition, spasmophilia.

The spasmophilic diathesis is a condition characterized by increased electrical irritability and a tendency to tonic or clonic contractions of one or more groups of muscles. That it may be familial has been shown by Sedgwick.² While the condition occasionally appears in the nursing infant, it usually occurs in connection with rachitis in the artificially fed. This relationship is shown by Oleari's³ work in the Parma clinic. Of 1500 cases of rachitis, which he examined, 18.4% were spasmophilic, and of 337 children with various types of convulsions 78.3% were rachitic. Of this last series 16 breast-fed children had tetany.

Although infantile tetany has been one of the most actively studied subjects in pediatrics, the etiology is still in doubt. Escherich, in his *Die Tetanie der Kinder*,⁴ was the first to describe hemorrhages into the parathyroid, and he concluded that the condition depended upon injuries to these glands and was allied to the tetany of adults. Other investigators of the Vienna school also found hemorrhages or blood pigment and supported Escherich's views. Other pathological processes have also been observed in these glands, but the most frequent and the most interesting is some type of hemorrhage. Yanase⁵ claimed that the hemorrhages were due to birth traumata and as a direct result the function of the gland was so

* Read before the Interurban Academy of Medicine at Superior, Wis., Nov. 19, 1913.

disturbed that some unknown poison was liberated. That insufficiency of the parathyroids have a direct bearing upon tetany is indicated in some cases by prompt response obtained after the administration of ox parathyroid. All cases, however, do not respond to this treatment, as shown by Gerstenberger,⁶ who was unable to influence a prolonged case by subcutaneous injection of aqueous solution of this substance. On the other hand, Thiemich,⁷ Curschmann,⁸ and others have reported finding histologically normal parathyroid glands in active cases of tetany; and Grosser and Betke⁹ and Bliss¹⁰ not only described similar findings, but also reported cases of hemorrhages within the parathyroid, as well as other pathological conditions, which cases had shown no signs of tetany during life. From these studies, it may be concluded that extensive hemorrhage may occur within the gland without causing tetany, and that tetany may occur without any demonstrable, anatomic change within the parathyroid. These observations, however, do not exclude a disturbed function of these glands in relation to or in association with the other internal secretions. Other ductless glands, notably the thymus, have been studied in relation to tetany, but as yet no close connection between these conditions and the internal secretions have been established.

There has been, more recently, a tendency by some observers to connect a disturbed metabolism, particularly of the metabolism of the lime salts, with infantile tetany, the exact nature of which has escaped their knowledge. Stoeltzner alone maintains that the condition is due to a calcium intoxication, while most other authors think that it is due to a lack of the calcium salt. v. Czybulski¹¹ demonstrated a negative calcium balance in some cases exhibiting spasmophilia. Quest¹² found the cerebral cortex of these children low in calcium. The antagonism, supposed to exist between the sodium and potassium salts on the one hand and the calcium and magnesium salts on the other, suggested to Grulee¹³ some experiments which were performed on dogs without, however, confirming the hypothesis that the increased electrical irritability in spasmophilia is the direct disturbance of the calcium and sodium equilibrium. The close relationship existing between rachitis and spasmophilia has been indicated. Of just what this relationship consists is not as yet

clear, but the calcium deficiency common to both conditions is probably the key to the situation.

Falta and Kahn¹⁴ have suggested an extremely interesting working hypothesis, based upon the assumption that the parathyroid hormone in normal conditions serves as a restraining influence on the excitability of the ganglion cells, possibly by promoting the assimilation of calcium. With parathyroid insufficiency the ganglion cells become over-sensitive. These authors give a detailed study of 21 cases and the results of experiments on dogs. The phenomena observed in all cases fitted in well with the above hypothesis.

No matter in what way the spasmophilic diathesis may manifest itself, the presence of the characteristic electrical reactions is the basis upon which our diagnosis is founded. We are indebted to v. Pirquet¹⁵ for a remarkable study of this phenomenon. Briefly stated, he found that with the normal electrode placed over the median or peroneal nerve a contraction of the thumb or great toe, as the case might be, could not be obtained on the anodal opening with a current of less than 5 milliamperes. The reaction upon anodal closing and cathodal opening and closing are often frequently obtained with less current than in the normal. The v. Pirquet chart following shows what he found to be the normal electrical reaction for a young infant, Fig. I, and for an infant nearing the end of the first year, Fig. II.



Fig. I.



Fig. II.

It should be remembered that a large percentage of congenitally weak infants show an increased electrical excitability. It was formerly believed that the appearance of the galvanic hyperexcitability was the first symptom of spasmophilia. Rosenstern¹⁶ has recently tested the electrical irritability of many infants under 8 weeks, and found that in very young infants at least the increased electrical irritability may be absent and convulsions and laryngospasm present.

The Chvostek phenomenon is significant when

obtained in children, but it is, of course, not characteristic of this condition. Sperk¹⁷ examined 300 mothers with their infants and found the facial phenomenon present in 26% of the mothers and 8% of the children. Of the children showing this condition, 70% were true cases of tetany, while in the mothers no other symptoms of tetany could be found. The phenomenon is best produced (according to Chvostek) by snapping the skin over the facial nerve with the finger, and consists of a contraction of the muscles about the mouth. The modification, known as the Weiss reaction, consists of a contraction of the muscles supplied by the upper branch of the seventh nerve, when the skin just outside of the palpebral fissure is tapped. Exaggerated reflexes are usually present. These may be general, or one reflex alone, as the knee jerk, may be exaggerated.

Trousseau's phenomenon is considered pathognomonic of spasmodophilia. It consists of the production of the obstetric or tetany hand, by encircling the arm below the insertion of the deltoid and making pressure.

The treatment of the condition has passed through various stages, the first being based on the assumption of a gastro-intestinal origin. This was discontinued when it was recognized that the phenomena observed could not be reconciled with reflex convulsions. Then came Kassowitz's theory, based on the assumption that the condition was merely a nervous manifestation of rachitis. While his theory was evidently wrong, the treatment he advocated has proven extremely effectual. This treatment by phosphorous and cod liver is very beneficial for both rachitis and tetany, but was not generally used by Americans until recently, probably because the explanations furnished were not acceptable. Since Schabad's¹⁸ work, the use of the Kassowitz's prescription has become universal for both conditions. Substitutes for cod liver oil have proved worthless. Following the use of this prescription, the calcium retention increases threefold. It has no action on healthy children.

It is not surprising that calcium has been administered directly in these cases by some observers. To be effectual large doses must be given. According to Bluhdorn,¹⁹ from 4 to 8 grams of the calcium should be given in the first 24 hours. This is gradually reduced to two or three grams daily. He emphasizes that the action of the calcium salt is symptomatic and transient, and that it must be

continued until all of the spasmophilic manifestations have permanently subsided, except the over-excitability to electrical stimuli. This can not be permanently influenced in this way. The use of the aqueous solutions of the ox-parathyroid has already been mentioned. Other internal secretions had been given without remarkable results except in occasional cases. Thus Bauer used epinephrin in latent tetany, associated with osteomalacia. In this case, the symptoms of both entirely subsided on three different occasions under the epinephrin treatment.

If the children have been overfed with cow's milk, the amount should be restricted; Thiemich²⁰ advised the reduction to an amount less than 1/10 of the body weight per day. The danger from this form of alimentary disturbance is greater the younger the child. A child over two years can do without milk for several weeks, if necessary, without serious injury. With repeated convulsions large doses of chloral per rectum may be advised. To an infant of 6 months or younger, a rectal enema of 0.5 grams chloral is given, pressing the buttocks together, so that the fluid is retained for ten minutes. This usually arrests the convulsions and the child then sleeps or rests for six or ten hours. Needless to say, the child must be carefully protected against chilling or overheating while under the influence of this drug. The chloral may be repeated on the following days, if necessary, or even larger amounts may be given. Bromides have never been of any use in this condition.

The following case histories, beside showing the more common manifestation of spasmodophilia, illustrate the treatment in greater detail.

CASE 1. Eleanor J.—Age 23 months: breast fed 17 months: last November had 30 or 40 convulsions, during two days, which were attributed to an intestinal trouble; severe stomatitis followed; five weeks ago suffered a nutritional disturbance, which was ushered in by severe convulsions. Four weeks ago, following a severe convulsion, the eyes rolled continuously and there were constant carpopedal spasms: in two days she had seven marked convulsions. The nervous symptoms then disappeared for a time, but reappeared again six days ago: has had cough for two days; bowels move only by injection: had two convulsions this morning.

Examination: Well nourished child: bronchial

rales throughout both her lungs; temperature 102; hands in Trousseau's position and feet in tonic spasm; abdominal tension increased; general exaggeration of reflexes. The electrical reactions were as follows two days later:



Fig. III.

The child was given an initial dose of castor oil, an enema containing 0.7 gram of chloral hydrate, and a water diet. The following morning Kassowitz's prescription was begun. At the end of 36 hours, the carpedal spasms were somewhat relieved, and the convulsions which were frequent on admission to the hospital had ceased. Oatmeal water was given and later other gruels. On the sixth day, her condition had improved so much that it was considered advisable to add milk. Four ounces were ordered to be given during the next 24 hours, but owing to an error in the interpretation of the instructions, the child received four ounces at each meal. She had two convulsions during the night and the following morning the hands had again assumed Trousseau's position. The same treatment was advised, as upon admission to the hospital, and the child made a perfect recovery. She has had no more convulsions, and her electrical reactions have remained normal, even during a severe attack of enteritis last summer.

CASE 2. Baby Ethel—Born July 7, 1911; breast 7 months, after which various artificial foods; had 14 convulsions at 8 months, and from 6 to 8 "choking spells" on one other occasion. These were so severe that the child's life was despaired of at one time. Brought in now because of severe "croup."

Examination: Cyanotic; under-nourished; Chvostek; severe rachitis; coated tongue; voice hoarse; constant metallic cough; loud stridor; lips and finger tips livid; marked recession of epigastrium and intercostal spaces on inspiration; pulse rapid; and child was evidently nearing complete exhaustion; the dyspnoea was so marked that I had Dr. Conkey examine the larynx for a possible

membrane or foreign body, his examination was negative; the electrical reactions follow:



Fig. IV.

Morphine, hypodermically, and castor oil were given. The symptoms were so severe that the child was kept in the office for one hour, after which time she was breathing more comfortably. The Kassowitz mixture was prescribed. The following day she was allowed cereal gruel and later vegetables. In July I saw the case again, this time for severe eczema. The child has had no convulsions or other evidence of spasmophilia since October. The electrical reactions now normal.

The following history would indicate that these babies are not good surgical risks.

CASE 3. Baby R.—6 weeks old. Consulted me in regard to the advisability of surgical treatment for inguinal and umbilical hernia, and because of loss of weight.

Examination: The typical under-nourished baby. It was found that the child was obtaining only 20 c. c. of milk from the mother's breast, so mixed feeding was advised. The hernias were severe, but could be retained with adhesive strap and truss, and operation was not advised. The child gained 600 grams during the next month. The mother's milk had not increased, but she was advised to follow the same system of feeding. I

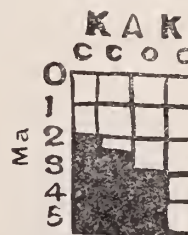


Fig. V.

again advised against the operation for the hernias at this time. The child was somewhat irritable; Chvostek sign present; Trousseau absent; knee jerk exaggerated; the electrical reactions were as follows:

The child then passed from my direct observation. Several weeks later he developed convulsions, which were repeated at intervals. The hernias were retained with difficulty, so the parents had him operated upon. Convulsions developed a few hours after the operation; child died, following seven spasms, from exhaustion.

Difficulties that are experienced in attempting to exclude epilepsy in some cases of spasmophilia are well illustrated in the following history:

CASE 4. Teddy F.—9 years old; one of large family; two older children mentally deficient. Father accustomed to the daily use of alcohol; but has rarely become intoxicated. Had tonsils and adenoids operated upon three years ago, and again the following year. Measles and occasional cold. In the spring of 1911, attacks developed, which were described by sister as follows: "During the meal time or while playing Ted would suddenly stop whatever he happened to be doing, and stare straight ahead; did not fall or cry out, and in a few seconds was all right again; would not answer if spoken to during the attacks; always one a day; sometimes many." These increased in number and severity during the fall; the boy would tremble and take hold of something in order to keep from falling. After three months of mild attacks, the child acted as if chewing something; would spread feet apart to maintain his equilibrium, and finally gradually sink to the floor. The attacks were never over one-half minute in duration, after which he would take a long breath and resume play. In the summer of 1912, these disappeared, following the use of a vermifuge, but returned again in the fall. They were very mild at first, but have increased in severity until now at least one a day is very severe. The child attracts attention of the family by seeming to choke. This is fol-

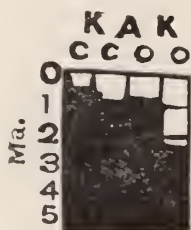


FIG. VI.

lowed by clonic convulsions, during which time there is a discharge of saliva from the mouth, and complete unconsciousness. At the end of the con-

vulsion, the child usually urinates and passes into deep sleep. It is impossible to estimate the number of mild attacks suffered during the day; there has been at least one severe one at night.

Examination: Well developed child; no stigmata of degeneration; knee jerk exaggerated; Chvostek's and Trousseau's phenomena present; electrical reactions are as follows:

The child was given the Kassowitz prescription, diet of vegetable and cereal, and was sent to the hospital. Because he had eaten a large amount of meat and milk during the day, a chloral injection was given at night. He had one convulsion toward morning. On the second day at the hospital, coryza developed with some redness of fances, and a hoarse cough. On the following day Koplik's spots were plainly seen. He was removed to the city hospital, where the attack of measles proved rather severe, and accompanied by albuminuria.

Three weeks from my original examination, the electrical reactions were normal; there was no exaggeration of reflexes; Chvostek's and Trousseau's phenomena absent; there had been no convulsions since the first day.

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ARTHRITIS DEFORMANS.*

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In order to properly present a subject as widely discussed as arthritis deformans, it is necessary to summarize briefly the vast amount of material on that disease that is found in medical literature. The ancients were familiar with it but confused it with gout. In 1800 Landre-Beauvais was the first to state his belief that it was a distinct entity. Alfred Garrod in his work on gout proved that deposits of urate salts, always present in gout, are never found in what he designated as chronic articular rheumatism, though certain of the joint phenomena and some of the accompanying symptoms may be similar. The descriptions of the disease by various authors differ as widely as do their statements regarding its etiology. Some authors, as Schüller and Bannatyne, believe it is an infec-

tious disease in which microorganisms can always be found, some, as Bouchard and Lancereaux, believe that it is a constitutional trouble of an hereditary nature. A few believe that it is distinctly a local process. A very small number are inclined to believe that it is a disease of the cerebro-spinal nervous system.

At various periods during the past nine years, I have spent considerable time and thought on this trouble and have been fortunate in meeting and treating some interesting types of this disease, as well as of gout and chronic articular rheumatism with both of which it is often confused.

Gout is met with most often in elderly men. We have a sudden onset usually in one of the smaller joints accompanied by local temperature and great pain. The nodes which consist of uric acid salts are larger than in the other two types and more symmetrical, leaving the ends of the bones in apposition and seldom causing subluxation. The X-ray shows them to be translucent.

Chronic articular rheumatism may occur at almost any age and in either sex. If after short prodromal symptoms or following an attack of tonsillitis accompanied by fever, we find pain and swelling of various joints both large and small with no preference shown for either and when in addition we have endo- and pericarditis and even myocarditis we know that we are dealing with a case of acute articular rheumatism. This usually runs its course without causing permanent change in any joint. Occasionally we meet with a case in which some pain and stiffness persist. When such is the case we have secondary chronic rheumatism following the acute form which was of an infectious character.

Arthritis deformans occurs almost entirely among women. I have met with but one case in a man. Most frequently the attack comes on between the ages of 25 and 35 or between 40 and 45. Dr. Chas. W. Delaney of Pennsylvania reports two cases in children both girls, one of 5, the other of 10 years. I am now treating a girl of 17. The onset is usually gradual. The small joints are first affected. A large per cent complain first of pain and stiffness through the balls of the feet. In some, a single joint usually in the foot or hand, may be painful on motion for some time before there are any objective symptoms. The thumb is very rarely affected. Following the smaller joints, we have the ankles, wrists, elbows and knees, less

* Read at the joint meeting of The Fox River Valley Medical Society and Upper Peninsula of Michigan Medical Society, Menominee, Mich., Oct. 22, 1913.

often the hips and shoulders. Arthritis deformans shows a marked preference for joints that are usually exempt in chronic articular rheumatism, i. e., the jaw, sterno-clavicular and cervical joints. The affection is, as a rule, conspicuously symmetrical with the exception of the jaw and sterno-clavicular joints in which it is usually unilateral. The swelling is not as great as in articular rheumatism, and in the fingers it has a characteristic spindle shape. There may or may not be local temperature or redness. In the majority of cases the swelling has a waxy appearance. Some joints improve as new ones are attacked, but a number of those first affected remain so permanently. The larger nodes usually form on the inner side of the joints and the X-ray shows them to be opaque. I have treated one case of undoubted arthritis deformans in which only the knees were involved.

In the early history of the disease, there is paroxysmal sweating of restricted areas, moist, oily hair, slight increase of temperature, rarely more than 101° F. but oftener from 99° to 100° F., rapid pulse and loss of flesh, all indicating hypersecretion of the thyroid gland. Later, if the disease continues on its usual course, the temperature becomes subnormal, the skin dry and sometimes parchment-like, at times scaly or eczematous. There may be muscular cramps and shooting pains and the various other symptoms indicating hypo-secretion of the thyroid and approaching exhaustion.

A brief summary of Sajous' findings in regard to what he terms the "Adrenal system" is necessary before proceeding to discuss my theory as to the cause of arthritis deformans and the method of treatment which has given gratifying results in every case in which I have tried it. According to Sajous, "The adrenal system consists of the pituitary body, made up of the anterior and posterior lobes, the adrenals and the thyroid. The thyroid gland sustains the normal functional activity of the anterior pituitary lobe, while the latter in turn maintains the normal activity of the adrenals to which it is directly connected by the nerves of the spinal cord and sympathetic system. The anterior lobe, through the adrenals controls the oxidation process. The functional activity of the anterior lobe is increased when the blood, from any cause, contains an excess of thyroid secretion. The functional activity of the adrenals is increased proportionally with that of the anterior pituitary body when the latter's activity is increased from any

cause. The functional activity of both lobes of the pituitary is passively decreased when the blood contains an insufficient proportion of thyroid secretion or is inadequately oxygenated or when from any cause its intrinsic metabolism is reduced." The posterior pituitary is the functional center of the nervous system and upon it all emotions, worry, grief, fear, and shocks, psychic and traumatic, react. With its co-center, the anterior lobe, its primary function is to promote metabolism. Experiments by Cannon, Pawlow, Crile and others have shown that emotions such as fear, worry, anger, etc., will increase the thyroid and therefore the adrenal secretion. These authors agree that hyper-activity of the thyroid is followed by hypo-activity and that where emotional stress is prolonged requiring much adrenal secretion it leads to final exhaustion of the thyroid gland.

Investigation and experience have led me to believe that arthritis deformans is due to a disturbance of function of the posterior pituitary by emotional stress; this through the central nervous system resulting in a perverted metabolism. I have found that in almost every case of arthritis deformans which I have treated there has been a history of emotional stress, usually worry. In each of the very limited number of cases where such a history was not elicited, I have every reason to believe that it nevertheless existed. The reason that women are attacked more frequently than men is because, from the very nature of their physical and mental make-up, they will usually endure in silence physical pain and mental agony, when a man will see to it that conditions are changed to give him peace of mind and body, or know the reason why.

If these conclusions are correct the task before us in a case of arthritis deformans is two-fold. First, to so educate our patient that he or she will live a more wise and contented emotional life. Second, to supply the adrenal system and with it the central nervous system with the element which is required in order to establish normal metabolism. The first can be done only by securing the confidence of the patient and then wisely, firmly and sympathetically ministering to his or her needs as circumstances may indicate. The second may in the majority of cases, be accomplished by judicious feeding of thymus substance. In much of what follows regarding the function of the thymus and the thyroid and their relation to the

adrenal system, I am indebted to Sajous and his two volumes on Internal Secretions and I shall quote him liberally.

The thyroid is present in infants and reaches its full development at puberty. After 45 years or age, its secretion slowly decreases and the gland itself atrophies. As diminished secretion and atrophy progress, connective tissue development in various parts of the body, including many organs, takes place. Early atrophy or insufficiency means early sclerosis. In this connection it may be well to mention a fact which I have noted, i. e., that if a case of arthritis deformans is successfully treated while there are symptoms of hyper-secretion, the joints resume their normal size and function. If on the other hand, the second stage, that of hypo-secretion, has continued for a time, there will be permanent joint changes and sometimes valvular lesions. Dr. Delaney has noted that arterio-sclerosis is frequently a concomitant factor in this disease. The foregoing would seem to indicate that thyroid substance should be of value in its treatment and many physicians report favorably on its use. There are, however, a number of reasons why thymus substance is indicated. In the first stage, that of hyper-secretion, the administration of thyroid extract may aggravate the symptoms already existing. Its field of usefulness is in the second stage if used at all. While thyroid extract may and often does produce dangerous effects, there is no evidence, according to Sajous, "that thymus can alone, that is independently of the thyroid, give rise to either exophthalmic goitre or myxedema. Yet the thymus seems sufficiently active to bring the adrenals to their normal activity when the general vital processes are depressed." "Experience has shown that thyroid alone will increase growth in cretinic children lacking a thymus gland but the mental symptoms are not improved, showing that stimulating the oxidation process alone through the adrenals is not sufficient to bring on improvement in mental symptoms." Autopsies have proved that in the vast majority of weak-minded but not myxedematous children the thymus is absent. The administration of thymus extract to cretins lacking a thymus gland will lead not only to mental growth but to hardening of the bones which in these patients are always soft. This indicates that the thymus gland supplies a secretion which the nervous system as a whole can utilize physiologic-

ally. This element is phosphorous which we find is an important constituent of not only the entire nervous system but also of milk, bile, red and white corpuscles, pus, semen and bone-marrow. It is with the administration of thymus substance that I have had results gratifying to both my patients and myself. My method of treatment is as follows: First of all if the feet or knees are painful, the patient is put to bed and kept there until walking can be done without irritating the affected joints. Irritation aggravates the trouble. When it is necessary to keep the patient in a reclining posture for a considerable time, she is instructed to perform various movements if able to do so. Many of these may be accomplished with ease in case of the legs and these will help develop strength in muscles more or less atrophied. Passive movements and gentle massage are also helpful. Counter-irritants and heat are indicated for relieving pain.

Internally the patient is given desiccated thymus, 5 gr., t. i. d., increasing by 5 gr. every week or ten days until the patient makes a satisfactory response. The average maximum dose is 20 gr. a day. One patient who had had arthritis deformans for 10 years was able to assimilate 35 gr. a day for some time. Over-dosage symptoms are similar to those produced by thyroid substance and should be avoided. In addition to the treatment just outlined, the patient should as far as possible have the benefit of every possible hygienic measure, a liberal diet, cheerful surroundings and companionship. The following case reports show various types of the disease.

CASE 1. Mrs. N., housewife, age 40, nervous temperament, came to me complaining of stiffness and pain through the balls of her feet, worse in the morning, had first noticed the trouble several weeks before; thought her hands were also becoming affected. Less than a month's treatment with thymus substance, 15 gr., t. i. d., resulted in overcoming all symptoms.

CASE 2. Miss H., teacher, age 34, disease of two years' duration; complained only of her knees so far as pain and stiffness was concerned; nervous symptoms were especially marked in this case. Talking and listening to conversation seemed to over-tax both mind and body and concentration of mind was at times impossible. Treatment for a period of several months resulted in restoring her to perfect health.

CASE 3. Mrs. C., housewife, age 32, disease of several months' standing; there was a history of severe emotional strain. She had been given salicylates in various forms, also what she called "serum treatment." Toes, ankles, knees, fingers, wrists and elbows affected, all having the characteristic waxy look, except the ankles which were slightly red; hair moist and oily, pulse rapid, temperature 100° F., the last three being symptoms of hyper-secretion of the thyroid. She was unable to walk without assistance and then only a few steps, slept little on account of pain, no appetite. After being in bed one week with the usual treatment she was able to walk about. Three months' further treatment restored the adrenal system to normal function and she is now doing work which compels her to be on her feet almost the entire day. There was no permanent change in any joint.

CASE 4. Miss N., age 17, pain and swelling in one finger noticed about a year ago; has had a cough with expectoration since two years of age. When she began treatment a little over three months ago, she was able to walk only a few steps and not at all without assistance; was very anemic; easily discouraged and annoyed; poor appetite, temperature 100° F. and had the usual symptoms of hyper-secretion of the thyroid; toes, fingers, knees, wrists, elbows, hips and one side of the jaw swollen and painful, a few joints reddened. At present only one knee is painful though there is some swelling and stiffness in a few other joints, she walks a little with a cane every day, eats and sleeps well except occasionally when she over-exerts; is gaining in flesh and improving in every way.

CASE 5. Miss J., teacher, age 28 when first severe symptoms were noticed, though one toe had been painful without objective symptoms for almost three years previously. In this case there was a history of emotional stress for a number of years. It is not necessary to go into detail as to the various treatments she had tried, including mud baths and change of climate. She came under my observation for the second time in June, 1908, at the time she returned after spending two years in Arizona. The year following witnessed a gradual decline in vital force until she had every symptom, not only of exhaustion of the thyroid but of commencing failure of the central nervous system, these symptoms corresponding to those following

the removal of the pituitary, i. e., depression and apathy, muscular weakness, loss of coördination and equilibrium, twitchings and irregular contractions of the muscles, subnormal temperature and a wasting of the body tissues. At this time, toes, ankles, fingers, one wrist, one elbow, one side of the jaw, one sterno-clavicular joint, two cervical and two joints of the coccyx were involved. The administration at this time of a solution of brain and orchitic substance, both rich in phosphorus, put her on her feet again. About a year and a half ago, due perhaps to continued stress, there was a return of the old symptoms with the addition of pain and swelling of left wrist and both shoulders and she was unable to even move without great pain. Thymus feeding restored both physical and mental vigor and at present she is able to walk a mile if necessary, is cheerful and happy and says that aside from the fact that her endurance is limited she feels better mentally and physically than she has felt for over nine years. This patient was the subject of the X-ray pictures now in your hands. She takes 10 gr. of thymus at regular intervals as a precautionary measure.

CASE 6. Miss D., music teacher, age 38, first symptoms noticed 11 years ago. First saw patient a little over a year ago. At that time she was extremely emaciated, almost every joint in her body seemed affected to some extent, and even the muscles were involved in the hardening process. Patient spent her time in a chair; had a poor appetite, slept little on account of pain and prayed that she might die. Thymus in large doses has enabled her to get rest and sleep, her appetite is good, she has gained in flesh, walks a little with crutches, is happy and mentally alert. She is still under treatment. The foregoing leads to the following conclusions:

First—Arthritis deformans in due to a disturbance of function of the posterior lobe of the pituitary body by emotional stress, this through the adrenal system resulting in perverted metabolism.

Second—It affects women chiefly because of their greater nervous sensibility and the fact that this and their mode of life and mental attitude make them most susceptible.

Third—In the first stage of the disease we find hypersecretion of the thyroid with the resulting symptoms of disturbed metabolism. The administration of thymus at this time supplies the needs of the central nervous system and relieves the over-

worked thyroid, thereby restoring normal metabolism and enabling the adrenal system to resume its normal functions. Treatment at this time will prevent permanent joint changes.

Fourth—In the second stage we find hyposecretion of the thyroid with approaching exhaustion and the resulting symptoms. The administration of thymus at this stage will supply the central nervous system with the phosphorus which it requires, thereby tending to restore normal metabolism and normal function to the thyroid and through it to the adrenal system. The treatment at this time will restore normal metabolism but will not restore function to ankylosed or partially ankylosed joints. It may be necessary in some advanced cases, but not all, to resume thymus feeding at times or to feed small amounts continuously in order to re-inforce a weakened adrenal system.

Fifth—The third stage with symptoms corresponding to those following the removal of the pituitary we rarely meet as the patient usually succumbs to some complication before it is reached.

Sixth—A sane psychotherapy and wise hygiene is absolutely necessary in addition to thymus feeding to establish and maintain normal metabolism.

SOME OBSERVATIONS ON ORAL ABNORMALITIES AND THEIR RELATION TO MEDICINE AND SURGERY.

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In this day of medical enlightenment, we find practitioners manifesting most interest in dental disorders. Medicine and Dentistry have been most closely associated since the very earliest times. Down to the 17th century in fact Dentistry was practiced exclusively by physicians. Dentistry then began to be practiced by men who had not been trained as physicians or surgeons and their numbers have gradually increased from then until now. This in itself is a matter for regret, but a fact which is certainly much more to be regretted is that physicians and surgeons manifest little or no interest in diseases and deformities of the teeth and jaws.

The remarkable progress during the last few years along the lines of preventive medicine has caused scientists to recognize the importance of giving due consideration to mouth hygiene. The

medical profession in all civilized countries is beginning to realize that the teeth and associated parts are an inseparable and most important part of the alimentary system—both from a physiological and pathological point of view.

A physician has unrivaled opportunity for im-



Fig. 1-A.

pressing upon parents the necessity of preserving the normal relation of the teeth, as well as their preservation by dietetic and prophylactic means. Medical men are usually consulted regarding the condition of a child's health many years before the patient is taken to a dentist. It is a well known fact that a dentist is usually consulted long after signs of dental caries have begun manifesting themselves. It is almost a crime that physicians fail to recognize the importance of giving sound advice at this time when it is so valuable and when its omission is so far reaching in its effect.

Dental caries, as has been pointed out by Pickerall, is due in a large measure, to errors of diet extending over the first twelve years of a child's life. It is just during that period that the general practitioner's advice is frequently requested as to whether the articles of diet are suitable or otherwise.

Time does not permit me to tell in detail of the factors which produce decay. I must say with

regret, however, that the majority of the members of the dental profession are content not to treat the diseases from a preventive point of view at all,

of pathological conditions, such as suppurative pulps, periodontitis, alveolar abscesses, osteomyelitis, periostitis, epithelial granulomas, gin-



Fig. 1-B.

but merely to make good, as far as possible, the destruction produced during the progress of disease.

The importance of a rational mouth hygiene as a benefit has been recognized only recently in the accumulation of statistics by different countries in Europe, which were first assembled in Great Britain in 1890. The reports showed that from seventy-seven to ninety per cent of the school children were suffering from diseases of the teeth. Nine years later came the publication of statistics for the United States with ninety-two per cent, and Switzerland in the next year, 1900, found from ninety to one-hundred per cent of the children with defective teeth.

Although such statistics point only to the de-

struction of tooth substances it is well to recognize that secondary conditions usually arise from the decay of the teeth. This establishes many forms

givitis, dental cysts, etc., and that brings us to the subject of oral sepsis. It is more than probable that many diseases, the causes of which are unknown may be primarily due to an infection. The source of this is unrecognized, the usual entrance being by way of the oral cavity. Strange as it may seem the average graduate of a medical school, and I might say the average physician, is possessed of a very limited understanding of diseases and deformities of the mouth, jaws and face.

Dr. C. H. Mayo, of Rochester, Minn., in a paper entitled, "Constitutional Diseases Secondary to Local Infection," which was read before the Chicago Dental Society last January, says, that "bacteria may enter the common bile-duct from the in-



Fig. 1-C.

testines, but that they more frequently pass the intestinal wall and appear in the portal circulation. The urethra has its special bacterial flora and the

destruction of tooth substances it is well to recognize that secondary conditions usually arise from the decay of the teeth. This establishes many forms

genito-urinary tract may also be invaded by the intestinal bacteria. The nasal cavity has its special group, though unless the mucous membrane be diseased, this cavity acts as a vacuum cleaner of the air-borne germs. The major portion of pyogenic micro-organisms affecting the body must therefore enter the mouth. In the mouth we find that the teeth are subject to infective destruction frequently under pressure. Root abscesses are de-

He cites a typical case of metastatic arthritis due to alveolar suppuration and says, "We had at one time in Mercy Hospital four cases of so-called rheumatoid arthritis, with sinuses or ulcers in the alveolar processes each bearing practically the same causal relation to the metastatic arthritic condition."

Drs. Wigman and Turner report in the *Lancet* forty-two cases of rheumatism and gout. In the majority of these they believe suppurative alveolar periodontitis to have been the direct cause, for a cure of the local condition was promptly followed by a subsidence of the constitutional symptoms.

While decay of the teeth is largely responsible for suppurative conditions of the oral cavity and dental caries in a large measure to errors of diet, it is admitted that irregularities in the position of the teeth, in the direction of crowding, lead to an increase in the incidence of caries. In some instances, undoubtedly, the condition comes through heredity, such as a child inheriting the large teeth of one parent with the small jaws and features of the other. But in the larger percentage of cases there is no reason to suspect this cause, and the jaws are too small for the teeth because they have not developed to their full dimension and they have not developed because they have not been used to their full physiological extent.

Dr. G. B. Black has shown by means of the gnatho-dynamometer that the force of the bite or strength of the muscles of mastication may in favorable individuals be equal to 300 pounds, but that in people whose diet is habitually a soft one the maximum pressure capable of being exerted may be as low as 50 pounds; and, as Black points out, when this habit has once been established, it tends to increase, since all peridental membranes become tender from lack of pressure, and increase of force is resented by the teeth. Children, especially should be encouraged to eat hard and more fibrous foods, and not be afraid to eat anything tough or hard.

It is between the ages of six and twelve years that the jaws as a rule fail to develop to the normal size sufficient to accommodate the teeth. It is therefore during this period that particular attention should be paid to the masticatory function.

In connection with this fact that the jaws fail to develop owing to a failure of function, let me call your attention to many other etiological factors which produce malposition of the teeth, mal-



Fig. 1-D.

veloped from diseased pulps of the teeth. These often give no symptoms and are not suspected until their presence is revealed by the X-ray during an attempt to locate some obscure local infection."

Osler in speaking of the effects of suppurative alveolar periodontitis or so-called pyorrhea alveolaris upon the general system, quotes Hunter as saying that septic gastritis and septic enteritis are common sequences, and that he regards appendicular, pleuritic, gall-bladder, and pyelitic inflammations as due largely to infection from the mouth.

Dr. John B. Murphy in an article published in the April 27th, 1912, number of the *Journal of the American Medical Association*, states that every type of non-traumatic joint inflammation is a metastatic manifestation of a primary infection in some other portion of the body.

relation of the dental arches and malformations of the jaws. The early loss of deciduous teeth probably causes 65 per cent of the irregularities of teeth.

deformities is known as the science of "Orthodontics." This specialty had been practiced in fact in an empirical way and might be compared



Fig. II. A and B.

Prolonged retention of the baby teeth, early loss of some permanent teeth during the period of eruption, unequalized intra- and extra-maxillary pressure may be mentioned, besides many other causes. Much as I should like time does not permit me to give detailed information as to how each one of these etiological factors is productive of destroying the force of mastication, paving the way as it does for diseased oral and systemic conditions.

with the treatment of many diseases with which the physician is unable to cope. Consequently the treatment was speculative.

In the last ten years, however, Orthodontics has made such rapid strides that it is today recognized as a field in which ideal results are obtained. It has rapidly passed through marked evolutionary stages so that it is now classed as a distinct specialty,—a specialty whose lines are as clearly defined as those which characterize Rhinology.

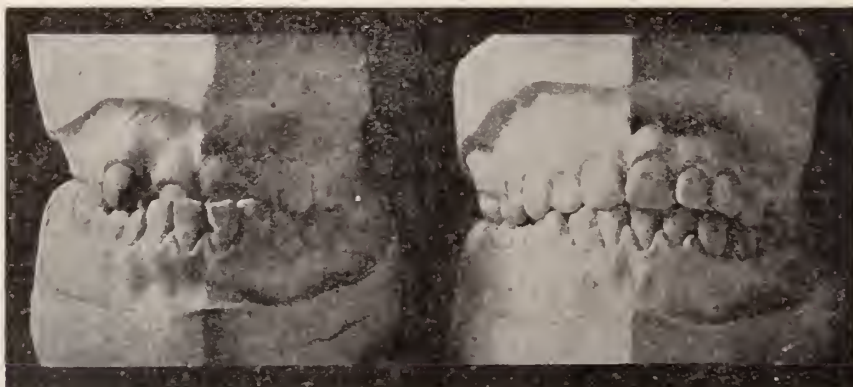


Fig. II. C and D.

During recent years there has developed a remarkable knowledge pertaining to the treating and correcting of malocclusion and dento-facial deformities. The treating and correcting of these

Modern orthodontic treatment and its results render valuable assistance many times to the rhinologist who finds it difficult to cure mouth breathers. It gives the rhinologist aid which lies

along physiological lines and simultaneously establishes a normal relation of the upper and lower teeth. In other words, modern orthodontics interrupts the progress of the abnormal formation of the bones, tissues of the bones, the face and the nasal cavity, as well as the accessory sinuses.

While I cannot discuss the value of orthodontic treatment in all its phases at length let me point out its aid to the rhinologist.

I desire to relate a few cases with illustrations:

Figure 1-A: Shows the photograph of a boy who was a mouth breather due to a pronounced malocclusion of his teeth.

Figure 1-B: Shows the casts of the teeth of this boy before and after orthodontic treatment.



Fig. 1-A.



Fig. 1-B.

It was necessary to reconstruct the upper arch, making it wider and more symmetrical. The lower arch was shifted mesially so that the relation of the inclined planes is correct.

Figure 1-C: Shows the palatine view of the casts of the same case. Notice the black lines which illustrate the amount of space gained by widening the upper arch. Measurements prove that the palate was not lowered but there was considerable widening of the nares brought on by growth.

Figure 1-D: Is a photograph of the same boy one year after treatment. Notice the normal relation of his teeth, permitting him to close his mouth without effort. On account of the nose being developed simultaneously with the growth of

the jaws it permits him to breathe through his nose freely.

Figure 2: Shows the photographs and model of a young lady before and after treatment. The upper jaw was undeveloped and there was not enough room for the tongue when the teeth were closed. In this case it was not necessary to widen the arch laterally, but to develop the anterior portion of the upper jaw. This was done by moving the upper anterior teeth labially so that the relations of the teeth were correct. The result of this treatment enabled her to functionate normally and permitted the adjacent parts to develop along correct anatomical lines. Since that time the space of the nasal channels has become larger and there

is more room for her tongue when her mouth is closed. See Figs. 2a, 2b, 2c, 2d.

Strange as it may seem the medical profession is far from giving recognition to the science of dentistry. While it is true that the American Medical Association has a section on Stomatology, the majority of up-to-date medical schools have no chair on Stomatology. Thus we find that students have been graduated with very little understanding of diseases and deformities of the mouth, jaws and face. Very few even have the knowledge of the number of teeth in the mouth, and less than half know anything about the anatomical relation of the teeth and their function.

While volumes have been written on the treatment of the various diseases and deformities that

affect the oral cavity, we find that many men in medicine and dentistry are losing sight of the principles underlying the production of disease. For instance—the so-called pyorrhea seems to have inspired the doctor and the dentist to such a height of enthusiasm that societies spend hours in its discussion and journals devote pages to its treatment.

If we are to believe that the mouth harbors only one disease, if we are to believe that loose teeth are always caused by pyorrhea, we are to believe that mouth diseases are always primary. If we



Fig. IV.

are to forget that many diseases of the mouth are secondary to some other condition of the human anatomy, and such is the consensus of opinion, then we have not passed beyond a speculative profession.

Not a day passes that we do not hear of some layman who is led to believe he has pyorrhea. Fake dental specialists are advertising its cure. Men high up in the dental profession sing its song, and probably boast of the fees they get. Physicians even are following the trail of this mad-dened enthusiasm. Thus we are in the height of frenzied pyorrhea delusions. Today we have pyorrhea specialists, everybody from the actor to the house-maid seems to have pyorrhea.

TWO TYPICAL CASES FOR DIFFERENTIAL DIAGNOSIS.

I want to call attention to two cases, illustrating

how different each case is from the standpoint of etiology, and yet how they simulate one another as to the clinical picture.

Mr. L., twenty-seven years of age. Occupation: Locomotive fireman. Complaint: Sore, loose teeth. Habits fair. Urinary analysis, negative. Headache, considerable. Loss of hair. Specific history doubtful. Blood pressure, normal. Serum diagnosis: Positive Wassermann. Lower and upper teeth loose, with gums swollen and angry looking; gums not painful to touch; some discharge of pus from sockets; gums bleed easily; breath foul. Posterior teeth firm. Diagnosis: Syphilis producing suppurative alveolar periodontitis. Prognosis: Favorable. Treatment: Salvarsan, intravenously, and curetment of teeth, with usual prophylactic treatment.

Mr. J., sixty-five years of age. Cobler. Complaint, Sore, loose teeth. Heavy drinker. Urinary analysis: Albumin and sugar. Considerable headache. Loss of hair, none. Specific history, none. Blood pressure, high. Serum diagnosis: Negative Wassermann. Teeth loose in both arches, anterior teeth very loose, with considerable pus discharging from sockets. Gums gangrenous and bleeding easily; breath foul, tongue unhealthy looking. Palate reddened and swollen. Diagnosis: Arterial sclerosis with interstitial nephritis and diabetic gangrene of the mouth. Prognosis: Unfavorable. Treatment: Palliative. Result: Patient died in diabetic ecma.

These two interesting cases should demonstrate the importance of having a thorough understanding of the etiology, diagnosis, prognosis, and treatment of diseases and deformities of the oral cavity. Strange as it may seem, these two patients were more or less under the care of dentists, yet at no time was an attempt made to find the real cause of the suppurative, inflammatory condition of their jaws. In the young man syphilis was a factor in causing his trouble in the mouth. In the old man, a complication of diabetes, nephritis, and arterial sclerosis produced the suppurative condition.

I have many times had the opportunity to see cases in which dentists administered local treatment by means of tooth-cleaning technique in patients who had a suppurative alveolar periodontitis, the patient being told by the dentist that he or she had pyorrhea because the teeth were loose and there was pus oozing from the gingival margin. In many of these cases I have found that the patient was suffering from syphilis. As a rule the patient would admit that he or she had some time in the past become infected, and been under specific treatment. In others, serum diagnosis would tell the story.

Several months ago, Mr. W., forty-two years of age, machinist by occupation, complaining of

trismus dentium with a large tumor on the right side of the face was referred to my clinic. See Fig. 3a. He gave the following history:

His health was fair, but he had always been suffering from loose teeth. In January, 1911, he called on his dentist to have a loose upper first molar extracted. A few days after the operation he noticed a swelling in the region of the extracted tooth. He called on his dentist who referred him to a physician. Operation was advised which was refused. The swelling increased rapidly and in a short time it was of such size that it prevented jaw movement. He now felt very weak, and had lost considerably in weight. Examination showed a tumor quite firm and immovable and painless upon pressure except over the region of the maxillary sinus. Upon examination of the oral cavity, I found the upper teeth except the upper right first and second bicuspids lost. These teeth were very loose with pus flowing from the gingival margin. A silver probe passed into the pus pocket of the loose teeth would travel upward to the external surface of the maxilla. By probing I could ascertain that there was considerable bone destruction. Upon inquiry into the history of this case, the patient admitted to me that he had had a chancre twenty years ago, but he denied ever having had secondary symptoms. A serum diagnosis was made, which showed a positive Wassermann reaction. The patient was placed under anti-syphilitic treatment and within two weeks we succeeded in inducing the tumor to break down. The patient was operated upon shortly after. The right maxillary bone was found to be considerably necrosed. We therefore removed the entire degenerated mass and packed with gauze. This was removed later to allow the wound to heal by granulation. The patient made splendid progress, and ten days later was given an injection of salvarsan. He has made an uninterrupted recovery. See Fig. 3 b.

This patient had consulted a dentist for almost 20 years in regard to his loose teeth, yet at no time had an attempt been made to diagnose his case. He had been told he had pyorrhea, just because his teeth were loose.

Mrs. S., twenty-seven years of age, noticed a swelling over the right second bicuspid. She consulted her dentist, who informed her that she had a blind abscess. He painted the exterior surface with iodine, and later applied what the patient called a gum blister. She however, noticed no improvement, so the dentist extracted the tooth. The swelling remained at a standstill, and so one after another she had the molars and the remaining bicuspid extracted. This gave her no relief and the condition became worse evidently due to the infection entering through the wound caused by the extraction. The dentist diagnosed her case as a chronic blind abscess with necrosis. She finally consulted a physician who referred her to my clinic. We immediately investigated her history. She said she was married, had no children, and had aborted three times. Physical examination showed the patient had old scars and she admitted hav-

ing had syphilis. She was promptly placed under anti-syphilitic treatment and the jaw was thoroughly curetted. Three weeks later the patient showed splendid improvement and was referred to her family physician for further attention. See Fig. 4.

It will not be long before the study of stomatology in all its phases must be considered by the medical profession as an important one. Medical schools cannot hope to progress along scientific lines without teaching their students a thorough understanding of diseases and deformities of the oral cavity and their relation to medicine and surgery. To impress the reader with the importance of this study I will quote Pickerell as follows:

"It is perhaps agreed that 'bad teeth cause indigestion,' and that is as far as the sequence of events is followed. This is bad enough in itself, for how can it be hoped to rear a nation of mentally and physically strong individuals if, during the periods of growth and development, there is indigestion, and therefore non-assimilation of food? Added to this is the slow, insidious, but nevertheless sure, chronic septicemia, brought about by the constant ingestion of toxins, pus, and bacteria, from a mouth containing numerous suppurating foci. It must be recognized, too, by the public, that anemias of severe type are frequently induced in the same manner; that tuberculous glands of the neck, serious forms of Ludvig's angina, frequently fatal, are also caused by diseased teeth; that malignant disease (cancer) of the jaws, tongue, and lips, often originates solely from diseased teeth, and from this cause alone a large number of lives are lost annually; that a larger number of disorders of the adjacent parts i. e., muscles, bones, nose, eyes, and ears, are intimately associated with diseased teeth, either reflexly through the nerves or by direct extension of the morbid process; that in conditions of unstable cerebral equilibrium the presence of diseased teeth is frequently sufficient to excite an attack of nervous disease, such as epilepsy, tic (spasms), hysteria, and some forms of insanity; that, in addition to all these ills, of which large numbers of cases have been, and are constantly being recorded, there is a chronic lassitude, lack of appetite, mild headache, constipation, and an inability to perform a normal amount of work, almost invariably associated with extensive dental disease. It is this relationship between cause and effect which re-

quires to be driven home in the public mind. The disease itself is not always obvious, and the channels by which its effects spread are not recognized.

"If the disease were more obvious, there is no doubt that long ago the public mind would have been stirred, and legislation would have been passed to facilitate the checking of such universal suffering. Suppose, for instance, every alveolar abscess pointed on the face instead of in the mouth, the hideous disfigurement resulting therefrom would long ago have arrested attention; yet probably in this case the harm to health would be infinitely less, because the products of disease would be to a certain extent outside of the body, and not, therefore, absorbed into the system.

"Suppose a similar condition affected the fingernails, suppose that 90 per cent of the community went about with decayed or suppurating fingernails, the idea would long ago have been so revolting that extensive measures would have been adopted for the suppression of such a disease; yet the total systemic disorder and the annual loss of life would have been far less than it is from dental disease."

There can be no doubt whatever that a very large proportion of the cases occupying the beds and attending the out-patient departments of our general hospitals are there solely because of primary dental disease, which has led to grave secondary disorders. The recovery, also, of many patients suffering from a number of diseases having other than a dental origin is seriously hindered and prolonged by the presence of a septic mouth. Especially in this respect are thousands of dollars wasted annually in the sanatorium treatment of phthisical patients, who either cannot masticate properly the food abundantly supplied or in whose mouth it becomes incorporated with a quantity of septic and toxic material, the constant ingestion of which either prevents or considerably retards recovery.

OPPORTUNITY.*

BY LUELLA E. AXTELL, M. D.,

MARINETTE, WIS.

Again I have the privilege of coming before this society in the capacity of president and I assure

you it is with pride and pleasure. I wish my work for you might have been larger and more productive of results, completely justifying your choice and trust. In the discharge of my duties I have coveted the diplomacy of a Franklin, the generalship of a Napoleon, and the wisdom of Solomon himself. Lacking all of these, I could only do my best; and I can honestly say my errors and failures have been through lack of ability, not because of lack of effort. I bespeak, therefore, your kindly, gentle and charitable consideration of all shortcomings.

The comradeship and service in our organization have been so inspiring and helpful that I have been anxious to include as many as possible in its membership. And it has been a gratification to note the satisfactory growth. Let us hope the increase will continue at so rapid a rate that in a short time every wide-awake, up-to-date, conscientious medical woman in the State shall be enrolled under our banner. It has been suggested that during the coming year, each member take it upon herself to secure one other. A very good idea. I should love to meet twice as many good, strong medical women every year, and without doubt we should all be helped by the meeting, to say nothing of the good time.

I have been asked "Why a woman's society when all Medical Societies of the state have opened wide their doors to us?" For answer, let us look down deeply into our own experience and consciousness. Are you, am I, giving and getting full measure of helpfulness and strength from the larger organizations? A few women, but few indeed, can say, "I am." Why not? Do you even belong to any other medical society? I ask this of the 70 reputable active medical women of the State. I get less than 25 affirmative answers. And yet, for years we have been receiving invitation after invitation, backed by the National organizations, and brought to our very doors by the county societies. Of this membership how many attend the meetings, and engage in the real activities? I am ashamed to say how few. Now why is this? Not because we have not been welcomed, surely not because we do not realize how well worth while it is, not in the least the fault of the societies, not even our fault. No doubt many causes operate somewhat, but chief among them is that we lack the confidence of experience and precedent; and too, we are such a minority, in round numbers only 70 to 1500 male

* Presidential address delivered before Wisconsin Medical Women's Society, October 30, 1913.

members in the largest body. And the wheels of that great machine go round so smoothly, those in service are so experienced and efficient, that our help does not seem a necessity, and most of us have not been able, as yet, to bring ourselves to attempt a part. Our timidity and minority hold us back from the performance of our duty and the enjoyment of our privilege, operating by that much, against our growth, not that our timidity is warranted, but it is a heritage of ages, that women have yet to outgrow. We must meet conditions as they exist, not as they should be. In many other states, medical women have realized this disadvantage and have organized always, so far as my investigations have led me, with benefit not only to themselves, but also to the larger organizations, for with increased confidence they have joined and taken part in the activities.

I am glad some of our women do work in state and county societies. We are usually treated with the utmost courtesy and should consider it one of our opportunities as indeed it is. It helps take away the feeling of isolation which all medical women must feel, increases confidence, stimulates relations with our confreres. All of these advantages obtain, and some others, through membership and work in our Woman's Society and one organization does not conflict in the least with the other, but strengthens and supplements. Our comparatively small membership not only allows, but makes incumbent upon each, some part in the work. Perhaps some of us feel we have very little time to give to a new field of endeavor. If we can do but little we will get less benefit; always some benefits however with any effort expended, always growth, always courage, always confidence, and strength.

Our society, too, offers an incentive in opportunity for service. The medical woman is a close point of contact between science and humanitarianism. Her social instincts make her a peculiarly fit tool in the fashioning of a better social order, especially in the work touching home and child life. The safe-guarding of home and children is at the very foundation of preventive medicine which our society is pledged to further; and it involves a work peculiarly ours because we are women and because we are physicians, a work we must not shirk for no one else can do it so well.

This is an era of reform laws. Is there a wrong? Get the legislature to enact a law, the city to pass

an ordinance. And so we have all sorts of laws and regulations, calculated to bring better conditions. Some of these are enforced, others are flagrantly violated. In the interests of good health, we have pure food laws, and laws and regulations for immoral places where disease is bred; we have laws against cigarettes, public drinking cups, insanitary and dangerous public buildings; we have spitting ordinances, and street cleaning ordinances; and garbage collection ordinances; we have quarantine and laws requiring the reporting of contagious disease, etc., etc., and now we have a law requiring health certificates before marriage. I enumerate these knowing well you are familiar with them, and others of their kind, but I wish to call to your attention the multiplicity of measures of this order. Surely with all the beneficent laws in the interests of public and individual health the fountain of youth springs at our very feet and the speedy regeneration of the race is assured. Not so? Why not? Because the question is still so largely a personal one. Conditions are improving, but a great work of education has yet to be done, and here lies our opportunity, both as individuals and as an organization. We have been asked, you remember, several times to use our influence toward this or that specific legislation, and while legislative measures, dealing with interests and welfare of woman, home, and children claim our careful consideration, and, if wise, demand our support, I believe we will find our greatest opportunity in furthering conditions which make such legislation effective, in helping to make questions of public health and race welfare personal and vital within our sphere of influence.

Our daily routine offers great opportunity for this work. As was called to our attention at the meeting last year, the power of the medical woman which embodies her largest success, lies in her ability to teach. And the woman physician is accomplishing much through this faculty and her peculiar opportunity. We are called upon to instruct also in a semi-public or public way. We are asked to address schools, mother's meetings, clubs, societies, women employees of large establishments, etc. We should not shirk this work, we should even help to create a demand for it. True, it is irksome to most of us, involving as it does sacrifice of time and effort, but is our duty and it is a golden opportunity. The value and effect of

such work, if well done, is beyond reckoning. We must remember that our profession gives our statements weight on any subject relating to health, habits, and heredity, and thereby gives us more influence, and a wider sphere, than we perhaps realize; and by the same token we must be very careful of what we say and how we say it. Our mode of expression should be calm and moderate, our statements sure, our counsels wise, that we do not destroy confidence or lead astray. We must be positive enough to be forceful, without being extremists. To be catalogued "a crank" is to be killed as an influential force in our community. If we are not careful our very earnestness and enthusiasm may carry us too far and fast, and before we know it our followers are left far behind—lo! we turn to find ourselves alone, not on a pinnacle, admired and looked up to, oh no! but stranded on a desert island, the island of the crank. And here we must bury our hope of accomplishment, for no matter how earnest, or conscientious, or even brilliant we may be, how much admired or respected, if we allow ourselves to ride a hobby or be extremists people will still say "Oh, yes she's a bright woman and she's a fine woman. We like her but you know," with a deprecatory smile, "she's a little queer, has strange notions on some subjects" and the "some subjects" (heart rending thought) usually proves to be the very thing in which we are vitally interested, the very subject we are anxious to bring to people's earnest and favorable consideration. On the other hand to be accounted level-headed and moderate, increases our opportunity and enhances our power. Our statements then are made authoritative through people's confidence in our judgment. Therefore we cannot be too careful to establish the right sort of reputation.

And what is true of us as individuals it quite true of us as an organization. Last year I urged concrete work upon this society and I wish to urge it again but let us be deliberate. Let our work be constructive, too, rather than iconoclastic, and any measure that involves the least question of doubtful expediency or efficiency would better rest in the hands of a committee of investigation until to work and study, beside promoting friendly re-another session. It is better to move slowly than unwisely, especially until we have proven ourselves an association of sensible, fair-minded, cool-headed women.

This is a day, too, of intensive cultivation.

Shall we not care for our own little acre? I do not mean in a narrow sense for personal gain only, but that we may be more and do more and give more. When we recall the struggles of woman pioneers in medicine and contrast their conditions and opportunities with our own, we have great cause for thankfulness. When we look ahead and see the medical woman of the sometime future freed from the handicap of age-old prejudice and lack of confidence, we realize a great stride has yet to be made, we have not reached the day when we can afford to rest upon our laurels. But we can "speed the good time coming." Such organizations as ours have a great opportunity in the prospering of the growing strength of womankind. We can make it the means of great mutual helpfulness. We all love our profession but no one else quite knows the depths of the suffering that is sometimes our portion. The responsibility for human life is a load almost too heavy. It all but crushes. And the trials and obstacles that are peculiarly ours should be a "tie that binds," the sympathy of kindred experience giving us power to encourage and strengthen one another. We will grow more confident by becoming familiar with the strength of others of our kind. We will be stimulated to better work by associating with other women who are doing nobly, and striving earnestly to increase their knowledge and efficiency and usefulness. If you do not need such help some one else does. It may be your office to encourage and inspire. If you are already rich, don't be niggardly. Cultivate the "fellow feeling" that "makes one wondrous kind," and give freely that others may be enriched. Reward will come through broadened sympathy, if we do not let this opportunity slip.

Now just a little word in private as to our attitude toward our own sex. Did you ever hear a medical woman say, "I don't like to work with women. I prefer men; women are so narrow, so fussy, so this, so that?" I hope not though I have heard something of the sort from woman's lips, I am sorry to say. Let us never disparage womankind. Help instead of criticize. A good woman or a good man is a masterpiece and neither sex has a monopoly of any mean attribute. A woman usually prefers to work with man, of a truth, but that is no one's fault. If it were not so the marriage institution would become obsolete. To admit such a preference is simply to declare

oneself a normal woman with healthy sex instincts. It is nothing to be ashamed of, and there is no need of resorting to subterfuge, nor of seeking a scape goat to account for it. A basic life principle underlies such preference. As medical women we must know this, and as honest women must admit it. Then we place ourselves in an attitude to properly appreciate values, and recognize our obligations to our own sex.

Any association of human beings, men or women, or both, must include some elements of inharmony. No one is perfect, we are bound to have differences of opinion and there must be a little friction, but the broader and bigger we are, the less does it matter. We will abide by the will of the majority and all work together for good, the common good, individual good, and human good.

As to specific lines of work inviting us they are many:

The work with the libraries in regard to health literature which we have started should be extended and systematized and can with advantage be taken up with the Y. W. C. A's and school libraries of the state, and possibly the Y. M. C. A's.

The work of education that is being done by individual members should be reported and systematized that ideas may be exchanged, and enthusiasm be stimulated and the work be prosecuted with greater wisdom and vigor.

The Baby Health Contests so successful in some other states in arousing an interest in eugenics and health measures might be promoted. If properly conducted they are great educators.

It has been suggested that we take up the work of systematically covering the state by a thorough study, county by county, as to tuberculosis conditions. The data so obtained would be very valuable in furthering the work for the prevention of tuberculosis. Two women physicians, Drs. Orton and Cook of Darlington, have made a start toward this work by giving an excellent report on LaFayette County, "A Ten Years' Survey" as published, you remember, in the Wisconsin Medical Journal for November, 1912. I have here a letter from Dr. Dearholt commending their work. A commendation of such sort from one so well qualified to judge is very gratifying and I am glad to read it.

Another line of work might be found in an

effort to stimulate a better co-operation with the department of health in the collection of all vital statistics. Vital statistics bear closely upon preventive medicine. A movement to make Wisconsin the banner state in respect to such records would be excellent. If we can do no more than arouse our own members to a deeper sense of obligation so that we do our part of the work better it will be worth while, and let us do that much at least.

I might go on indefinitely enumerating our opportunities till they piled mountain high. That we cannot embrace them all is certain, but we can do considerable *if* we but map out a definite plan of work. So much is necessary. No one will put our work into our hands.

"The busy world shoves angrily aside

The man, who stands with arms akimbo set
Until occasion tell him what to do;

And he, who waits to have his task marked out
Shall die and leave his errand unfulfilled."

Though we cannot do all we would, let us do all we can; a little more this year than last, and a little better. If we haven't much time, why not cultivate the things that make us grow, that increase our efficiency so that less time will suffice?

The richness of our opportunity demands response. To refuse to meet it is to shrivel into selfhood, to narrowness and weakness; but to rise to the occasion, to do our part as best we can, means to grow in strength, in usefulness, in power, and self respect, to elevate and help all womankind and humankind, and earn the "thanks of millions yet to be."

PARALYSIS OF THE ABDUCENS AFTER INJECTION OF ALCOHOL FOR NEURALGIA OF THE 5TH NERVE. Fejer, J., Budapest. (Centralblatt für prakt. Augenheilkunde, 37, Juni, 1913, p. 166.) A woman, aged 50, came with diplopia due to paralysis of the right abducens, which set in a week after an injection of alcohol at the region of the right zygomatic bone under the right lower lid. The lid was very much swollen, but the puncture could not be seen. F. surmised that a few drops of alcohol, which apparently was injected in the direction to the foramen rotundum and ovale came into the neighborhood of the abducens and caused perineuritis or a chemical neurosis in the medullary sheath. Under sojodin treatment the paralysis healed in about 2 months.

. C. ZIMMERMANN.

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EDITORIALS

THE CHRISTMAS SPIRIT IN MEDICINE.

It was at this season, just twenty-five years ago, that Robert Louis Stevenson published his essay called, "A Christmas Sermon," in which, in his gentle way, he pointed out the dignity and greatness of some of the simple, hum-drum virtues and duties of life, and the difficulty of attaining even a moderate degree of success in their practice. We are apt, he says, to ask for "higher tasks, because we do not recognize the height of those we have. Trying to be kind and honest seems an affair too simple and too inconsequential for gentlemen of our heroic mould." And then he soon continues with the familiar lines: "To be honest, to be kind—to earn a little and to spend a little less, to make upon the whole a family happier for his presence, to renounce when that shall be necessary and not be embittered, to keep a few friends but these without capitulation—above all, on the same grim condition, to keep friends with himself—here is a task for all that a man has of fortitude and delicacy. He has an ambitious soul who would ask more; he has a hopeful spirit who should look in such an enterprise to be successful."

No one has a better opportunity than the physician to put these principles into practice—to actually live them. And to the honor of the profession be it said, most of its members are doing these very things every day of their lives, without any effort or self-consciousness.

But as we approach the ending of the old year and beginning of the new we can all profitably look back over our lives for the last twelve months and see how well our work measures up to the simple but high standard of being honest, being kind, and keeping our self-respect.

For the physician, being honest means so much more than simply keeping out of financial difficulties; it means giving honest service. It means earnest preparation, faithful study, careful methods, conscientious devotion to the interests of the patient, fair dealing with all.

And being kind is far from being an easy thing: it is not merely patting the old ladies on the shoulder and chucking the babies under the chin. It means striving to be truly helpful, to understand the doubts and perplexities and anxieties of our patients and their friends. It means a willingness to forget ourselves and think only of the welfare of the patient when other advice is needed, or special care is required which we are not qualified to give. It means cheering and strengthening the weak-hearted, and "helping the lame dogs over the stiles."

Keeping friends with himself, keeping his self-respect, is no easier a task for the physician than for the layman. In many respects it is harder, the temptations are so great, the excuses he can give himself are so plausible. Fee splitting in some of its sugar-coated forms may have seemed so comfortable and convenient a way of replenishing a lean bank account. Failing to examine a urine or a sputum may have seemed so excusable when the

patient complained only of headache or of indigestion. People are so unwilling in many cases to permit thorough, careful examinations to be made. A brother practitioner may really have laid himself open to criticism by some thoughtless remark. But do not these and the scores of other excuses of equally plausible character all serve to lessen his self-respect, to keep him less truly friendly with himself.

Surely "here is a task for all that a man has of fortitude and delicacy."

In the same essay to which we have referred Stevenson says: "There is an idea abroad among moral people that they should make their neighbors good. One person I have to make good: myself. But my duty to my neighbor is much more nearly expressed by saying that I have to make him happy—if I may."

The great privilege of the medical profession is that the physician has so many "neighbours," using the word in its best and broadest sense, that to him is given the opportunity of making happy—if he may—more of his fellow beings than fall to the lot of almost any other class of men.

The tombs of Egypt have yielded up to us the story of the first physician known to history who lived six thousand years ago, three thousands years before the days of Aesculapius. This great physician was a royal minister as well, a priest, a writer, an astronomer, and an architect of distinction, having been the first to build with hewn stone. But if we knew naught of him but his name he would still be worthy of our reverence, for from that we can form a picture of the manner of man he must have been. To him was given the name of I-Em-Hotep, which being translated means "He who cometh in peace."

Good he must have been, rising above the jealousies and littlenesses which were a part of human nature then as now; learned he must have been in the wisdom and experience of his time; skillful he must have been in their application: all this is shown in the loving title bestowed upon him.

So we see that though the outward forms of practice in our profession change in the course of the centuries, the fundamental principles have not changed and today we need as much as ever the integrity, the learning, and the skill which have brought down to us the name of I-Em-Hotep, in order that we may effectively do our duty to our

neighbors, and help to bring to them the Christmas Spirit of Peace and Good Will Toward Men.

THE EUGENIC MARRIAGE BILL.

The last legislature passed an act commonly referred to as the Eugenic Marriage Bill, which goes into effect January 1, 1914, and which promises to be a source of endless trouble and dissatisfaction to both the medical profession and the public.

Without wasting time in speculating as to the probable effect of this act on the health and morals of Wisconsin it is proposed to give a copy of the act in full, and to mention briefly some of the difficulties which it presents to the medical profession.

Chapter 738. Laws of 1913.

AN ACT

To create section 2339m of the statutes, relating to marriage and venereal diseases.

The people of the State of Wisconsin, represented in Senate and Assembly, do enact as follows:

SECTION 1. There is added to the statutes a new section to read: Section 2339m. 1. All male persons making application for license to marry shall at any time within fifteen days prior to such application, be examined as to the existence or non-existence in such person of any venereal disease, and it shall be unlawful for the county clerk of any county to issue a license to marry to any person who fails to present and file with such county clerk a certificate setting forth that such person is free from acquired venereal diseases so nearly as can be determined by physical examination and by the application of the recognized clinical and laboratory tests of scientific search. Such certificate shall be made by a licensed physician, shall be filed with the application for license to marry, and shall read as follows, to-wit:

I, (Name of physician), being a legally licensed physician, do certify that I have this day of 19...., carefully and thoroughly examined..... (Name of person)....., having applied the recognized clinical and laboratory tests of scientific search and find him to be free from all venereal diseases so nearly as can be determined.

..... (Signature of physician).

2. Such examiners shall be physicians duly licensed to practice in this state, shall be persons of good moral character and of scientific attainments and at least thirty years of age. The fee for such examination, to be paid by the applicant for examination before the certificate shall be granted, shall not exceed three dollars. The county physician of any county shall, upon request, make the necessary examination and issue such certificate, if the same can properly be issued, without charge to the applicant, if said applicant be indigent.

3. Whenever there is a dispute or disagreement regarding the findings of any medical examiner, laboratory

tests shall be made in the state laboratory of hygiene from material submitted by such examiner, and the findings of the said laboratory shall be accepted as evidence of the presence or absence in the person examined of any venereal disease.

4. In any case wherein the certificate of health required by subsection 1 of this section shall be refused and the applicant shall make and file with the county clerk of the proper county an affidavit setting forth the fact that such applicant has not had a fair and impartial examination and that he is entitled to such certificate of health, it shall be the duty of such county clerk to certify such proceedings, at once, to the county court of such county without formality or expense to such applicant. Such applicant shall be heard by a judge of said court, at the earliest time practicable, without a jury in court or in chambers, during the term or in vacation as the case may be. Notice of the time and place of such hearing shall be given to such applicant by mail. A certified copy of an order of such judge upon his findings in such matter determining that such applicant is entitled to such certificate of health presented and filed with such county clerk, shall have the same force and effect as such certificate and such county clerk shall thereupon issue a license to marry, to such applicant.

5. Any person a resident of this state, who with intent to evade the provisions of this act shall go into another state and there have a marriage solemnized and who within one year from date of such marriage shall return and reside in this state, shall upon information or knowledge to the district attorney of any county be required by him to file with the county clerk of any county in which such person may be then a resident, a certificate of examination from such physician as set forth in this section. Any person violating the provisions of this subsection shall be punished by imprisonment in the county jail not less than thirty days nor more than one year.

6. Any county clerk who shall unlawfully issue a license to marry to any person who fails to present and file the certificate provided by subsection 1 of this section, or any party or parties having knowledge of any matter relating or pertaining to the examination of any applicant for license to marry, who shall disclose the same, or any portion thereof, except as may be required by law, shall upon proof thereof be guilty of a felony, and shall be punished by imprisonment in the state prison not less than one year nor more than five years.

7. Any physician who shall knowingly and wilfully make any false statement in the certificate provided for in subsection 1 of this section shall be guilty of perjury and upon conviction shall be punished as for perjury, and a conviction under this subsection shall revoke the license of such physician to practice in this state.

SECTION 2. All acts or parts of acts inconsistent with the provisions of this act are repealed.

SECTION 3. This act shall take effect on and after January 1, 1914.

There is no question in our minds as to the good faith of those who urged the passage of this bill.

or of the sincerity and earnestness of the members of the legislature who supported it as an effort to uplift the human race. The great trouble is that the difficulties and uncertainties of medical diagnosis are unknown to these good people. Few of them in all probability, have ever heard of the great truth expressed in the aphorism of Hippocrates: "Life is short, and the Art long; the occasion fleeting; experience fallacious, and judgment difficult." To the average layman the talk about an examination sufficient to declare a man "free from acquired venereal disease" probably suggests a process similar to candling an egg. And when a Wassermann test is referred to it probably brings up a mental picture of something resembling a Babcock test for butter-fat in milk.

According to the wording of the act practically every physician in Wisconsin will be called upon at one time or another to examine candidates for matrimony. There are scores of physicians in the state, probably hundreds in fact, who have not the facilities for carrying out the simplest of the "laboratory tests of scientific search." There are scores of physicians who have not even a microscope. (Perhaps this new law may compel them to provide themselves with microscopes and become familiar with their use, and thus prove a blessing in disguise.)

Syphilis and gonorrhoea are the two diseases directly aimed at by the Eugenic Marriage Bill. Let us consider them briefly:

Active syphilis is fairly easy to recognize in most cases, but in the latent stage nothing can be more difficult. The Wassermann Reaction helps in some cases, but it must be remembered that a positive Wassermann Reaction is simply *one symptom* of syphilis and it must not be looked upon as an infallible guide to its detection. A single negative Wassermann Reaction may be of no value whatever in excluding syphilis.

We hear the Wassermann Reaction mentioned so glibly nowadays that one might imagine it to be as easily carried out as a test for sugar in the urine. As a matter of fact it requires the greatest experience and care and the most perfect technique to be worth anything at all. There are probably not over twenty men in Wisconsin who have the laboratory facilities and the experience necessary to make a dependable Wassermann Reaction.

The time required to make Wassermann Reactions is not understood by most people not even by

physicians. Without allowing for the time required to gather the materials, and things like sheep's blood and guinea pig's blood are not always easy to obtain, the actual time occupied by the test itself is from seven to eight hours. Of course several specimens of blood can be tested at the same time, but no satisfactory way has yet been found of shortening the time. The short-cuts and the ready-made reagents have not yet proved themselves to be reliable.

The Luetin test is still in the experimental stage and cannot yet be used as a substitute for the Wassermann.

The result is that the general practitioner is left in a most uncomfortable situation. There will be many cases in which he cannot exclude syphilis without a Wassermann Reaction. He cannot make a Wassermann Reaction with the ordinary laboratory facilities at his command. And even if he had the facilities he could not afford to do the work and give the time required for the fee which is fixed by the Act.

With regard to gonorrhoea the situation is little better. An active gonorrhoea is readily recognized but let us briefly consider what the method of procedure is when a man comes to ask if he is still a source of contagion, once having had gonorrhoea. A urethral discharge should be sought and, if obtained, examined for the gonococcus. If no discharge is present, a provocative injection may be required to call forth the buried germs. The urine should be examined for pus and shreds and if present, these should be examined for the gonococcus. The source of the pus and shreds should be determined. The urethra should be palpated on a full sized sound, to detect the presence of enlarged Littre's glands, as these are the favorite sites of infection in the anterior canal in gonorrhoea. The prostate and seminal vesicles require attention. Often an endoscopic examination is necessary. Not infrequently two or more examinations of a man are necessary before one can give an opinion. While urologists at present do not rely upon the complement fixation test when applied to the diagnosis of gonorrhoea, yet, in the near future, its value may be such as to make its routine use necessary.

All of this requires a large amount of time and, if it is to be of any value, special training on the part of the examiner.

It seems to us that the result of this act will be

the development of a class of unscrupulous marriage-license-and-venereal-disease specialists, who will find in this legislation a wonderful opportunity given them to catch in their nets the ignorant and the unwary.

The more conscientious and capable members of the medical profession will be very apt to feel that they cannot afford to give to this work the time which its thorough performance would require; some one must do it; so the humbug and the fakir will reap the harvest.

The provision that the county physicians must issue certificates for the indigent, places these overworked and underpaid members of the profession in a most unfortunate plight, for they are no better equipped to do the work than the average general practitioner.

The medical profession has been and will be always ready to do whatever lies within its power to lessen the ravages of the venereal diseases, and the theory of the Eugenic Marriage Bill might well receive our hearty endorsement, but in its present form the act asks impossibilities of the medical profession and the only loop-hole of escape is through insincerity and evasion. This is an intolerable situation and the united profession should rise in protest. But as the state has seen fit to enact this law, let it, and not the overburdened medical profession, devise and provide ways and means of carrying it into effect.

A BLACKMAILING SCHEME.

Down in Indiana a new blackmailing scheme has been worked on several unsuspecting physicians. First of all a letter is received of which the following is a copy:

.....1913.
 Dr.....
, Indiana.

Dear Doctor:—

You will no doubt be surprised to get this letter from a stranger, but oh, I am in such awful trouble that I must get help soon or I will go crazy.

I am in a family way, nearly two months gone, unmarried and deserted. That tells the whole miserable story in a few words.

I must get free at any cost, as I would much rather die than have it become known.

Won't you help me or tell me of someone you think would? If you will I will pay you well for it and be forever grateful to you for saving me from worse than death. Please do not be angry with me for asking your

aid. I could not bring myself to go to one I know, and I heard a lady from here say you were a good doctor. I feel sure that if you know all the circumstances and how much this means to me you would not condemn me.

I can make an excuse to get away for a short time and if you can assist me in any way please let me know at once how much it will cost me and how soon I can act.

Kindly use plain envelope.

Sincerely yours,

Miss.....

If the letter is answered, a young girl soon puts in an appearance, says the Journal of the Indiana State Medical Association, and no matter what attention is given her, her visit is followed some weeks later by the visit of a man who claims to be a relative of the girl, and who makes the statement that the girl has lost her life through the effects of an abortion, and that on her person was found the doctor's letter, professional card, etc. It is then made to appear that things look bad for the doctor, and that suit will be brought unless the matter can be settled out of court. Whether the doctor is guilty or not, he sometimes is weak enough to yield to the temptation to avoid notoriety, and pays the price that is asked for silence. The fact that several Indiana physicians have received the letter which we herewith reproduce, all of the letters being in the same handwriting, but sent from different towns and with different signatures, lends color to the supposition that a well-devised scheme of blackmailing is on foot, and members of the medical profession should be on their guard.

The receipt of a letter of this general character should at once arouse suspicion. It is astonishing that any physician should be willing to answer it. But the fact that several have done so in Indiana goes to show that we are still far from safe when our credulity and cheerful confidence in human nature are skillfully played upon by some shrewd sharper.

NEWS ITEMS AND PERSONALS

DR. BRECKENRIDGE of Racine was elected examiner of the blind for the eastern district of Racine County and Dr. W. A. Fulton of Burlington examiner for the western district, by the board of supervisors on November 22nd.

DR. A. C. DANA of Fond du Lac has been appointed medical examiner for the state life fund by the state board of health.

DR. A. F. LYON-CAMPBELL who recently returned from a five months' study in Europe, has located at Peshtigo.

DRS. A. J. DRIESSEL of West Bend and H. Driessel of Kewaskum were injured in a runaway accident on November 12. Dr. A. J. Driessel escaped with a few cuts, but his father was not so fortunate as he fell on his face and received a fractured nose, besides many cuts and bruises about his head and body.

DR. L. A. KLIESE, Milwaukee, has been appointed examining physician for Milwaukee County of the insurance department of the state.

DR. GEO. E. HOYT, Menomonie Falls, recently appointed district health officer, has been declared ineligible, as he already is a member of the state senate.

DR. U. G. DARLING, Lake Geneva, has been appointed assistant professor of mental diseases and clinical neurology in the medical department of the University of Illinois.

DRS. GEO. H. and HOWARD YOUNG have formed a partnership at Elkhorn.

DR. W. E. SCOLLARD, Milwaukee was declared insane on November 28.

LIEUT. W. W. GAYER, second assistant surgeon at the Milwaukee National Soldiers' Home, has been transferred to the National Soldiers' Home at Hampton, Va.

DR. W. F. WHYTE, Watertown, has disposed of his practice to Dr. T. C. Abelman of the Michigan State Soldiers' Home. Dr. Whyte leaves on January 31 for a trip to Egypt.

THE LAKESIDE SANATORIUM, at Oshkosh, costing \$75,000 was opened to the public on December 15th.

DR. CHARLES GORST, superintendent of the Mendota State Hospital for the Insane, in his annual report transmitted to the board of control recommends that the state establish a home for inebriates and a state colony for epileptics and the confinement of idiots and imbeciles in county institutions.

A WOMAN PHYSICIAN NEEDED FOR THE PRESBYTERIAN HOSPITAL AND DISPENSARY AT TSINANFU, NORTH CHINA.

Tsinanfu is the capital of Shantung Province. It is a city of about 100,000, and lies on the Hwang

Ho River, 300 miles south of Peking. Railway lines connect it with Peking, Weihsien, Tsingtau and Tientsin.

The Shantung Mission, of which Tsinanfu is a station, includes the entire province, with an area of 55,970 square miles—about the size of Missouri. The Germans regard Shantung as their "sphere of influence." The staff of the Presbyterian Mission stationed at Tsinanfu includes nearly a score of American men and women, engaged in medical, educational and evangelistic work.

This hospital has been closed periodically for the last three years owing to ill health of the physician in charge. An experienced woman doctor is needed at once to carry on the work.

The woman required should have had thorough medical training and considerable experience in practice. She should possess a sound constitution and good health, good sense, ability to work harmoniously with others, and the dominating purpose to make her life and work contribute directly to the Christian and religious aim of the mission.

Adequate support, including salary, traveling expenses, living quarters, etc., is provided through the Board of Foreign Missions of the Presbyterian Church in the U. S. A.

Correspondence may be addressed to Wilbert B. Smith, Candidate Secretary, Student Volunteer Movement for Foreign Missions, 600 Lexington Avenue, New York City.

REMOVALS

Dr. J. R. Mitchell, Washburn to Chicago.

Dr. G. Krahn, Oconto to Oconto Falls.

Dr. J. T. Laughlin, Alma to Parkers Prairie, Minn.

Dr. H. D. Hurlbut, Elkhorn to Fond du Lac.

Dr. G. V. Henika, Beaver Dam to Madison.

Dr. J. L. Bender, Luxemburg to Grand Rapids, Mich.

Dr. A. O. Eckardt, Nelson to Arcadia.

Dr. J. C. Cutler, Mt. Horeb to Virginia.

DEATHS

Dr. T. J. McClusky, formerly of Beloit, died on November 28, at Dubuque, Ia., aged 52 years.

Dr. William Roscoe Bell, of Marinette, died on November 20, at Kenosha, aged 35 years. He was a graduate of Marquette University, Medical Department, in 1904.

Dr. Henry E. Zielley of Spokane, Washington, died on November 18, aged 87 years. Dr. Zielley was a former resident of Chilton, Wis. He was born February 14, 1826, in Montgomery County, N. Y. He removed to Spokane in 1893.

Dr. Henry Frederick Mueller of Prairie du Sac, died on Nov. 23. Henry Frederick Mueller was born in Meldorf, Holstein, Germany, on November 25, 1858. He received his elementary education in the place of his birth. He came to America in early manhood, going to St. Paul. He began the study of medicine at St. Paul and Minneapolis, and later completed a course in the medical department of the University at Louisville, Ky. He practiced at Colby and West Superior, Wisconsin, for several years and in 1893 removed to Prairie du Sac where he had since resided.

Dr. Corwin J. Steele of Hustler died on November 13, after many years of ill health. The immediate cause of death was neuralgia of the heart. Dr. Steele was born in New York, Nov. 15, 1859. During his childhood his parents removed to Wisconsin and settled at Viroqua and later in Sparta, where he received his early education. He graduated from the Sparta High School, the University of Wisconsin and Rush Medical College. After graduation he practiced at Cashton, and for nine years at Milwaukee. His health failing he removed to Chandler, Okla., and after three years removed to Hustler where the remainder of his life was spent.

Dr. James V. Canavan, mayor of Appleton, died on December 4, 1913, after a lingering illness covering a period of nearly two years. Mayor Canavan was a pioneer of Outagamie County, having been born on a farm near Appleton on January 22, 1860. In 1894 he graduated from Rush Medical College, Chicago. Returning to Appleton he practiced medicine until two years ago, when he was elected mayor and was obliged to devote his entire time to the office.

He was a member of the Outagamie County and the State Medical Societies.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

Officers 1913-1914

CHARLES S. SHELDON, Madison President

C. A. EVANS, Milwaukee 1st Vice President

C. J. COMBS, Oshkosh 2nd Vice President

CHAS. S. SHELDON, Madison, Secretary

EDWARD KINNE, Elkhorn, 3rd Vice President

S. S. HALL, Ripon, Treasurer ROCK SLEYSER, Waupun, Assistant Secretary

Councilors

TERM EXPIRES 1917
1st Dist., M. R. Wilkinson - Oconomowoc
2nd Dist., G. Windesheim - Kenosha

TERM EXPIRES 1919
5th Dist., W. F. Zierath - Sheboygan
6th Dist., H. W. Abraham, - Appleton

TERM EXPIRES 1915
9th Dist., T. H. Hay - Stevens Point
10th Dist., R. U. Cairns - River Falls

TERM EXPIRES 1918
3rd Dist., F. T. Nye - Beloit
4th Dist., W. Cunningham - Platteville

TERM EXPIRES 1914
7th Dist., Edward Evans, - La Crosse
8th Dist., T. J. Redelings - Marinette

TERM EXPIRES 1916
11th Dist., J. M. Dodd - Ashland
12th Dist., H. E. Dearholt - Milwaukee

Delegates to American Medical Association

L. ROCK SLEYSER, Waupun

J. J. McGOVERN, Milwaukee

J. M. DODD, Ashland

W. T. MURPHY, Waukesha

Alternates

F. T. NYE, Beloit

J. F. PEMBER, Janesville

Committee on Public Policy and Legislation

J. P. McMAHON, Milwaukee, Chairman

A. G. SULLIVAN, Madison

F. F. BOWMAN, Madison

Committee on Medical Defense

G. E. SEAMAN, Milwaukee, Chairman

S. S. HALL, Ripon

A. J. PATEK, Milwaukee

Committee on Prevention of Tuberculosis

M. P. RAVENEL, Madison

G. E. SEAMAN, Milwaukee

C. A. HARPER, Madison

J. M. BEFFEL, Milwaukee

T. H. HAY, Stevens Point

Program Committee

W. F. ZIERATH, Sheboygan

L. M. WARFIELD, Milwaukee, Chairman

C. S. SHELDON, Madison

Committee on Arrangements

C. A. EVANS, Milwaukee, Chairman

NEXT ANNUAL SESSION, OSHKOSH, 1914

The Wisconsin Medical Journal, Official Publication.

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

Table with 3 columns: County, President, Secretary. Lists 90 counties and their respective officers.

SOCIETY PROCEEDINGS

OUTAGAMIE COUNTY

DANE COUNTY

Dane County Medical Society held its annual meeting and banquet at the Madison Club on December 7th. Dr. C. S. Sheldon addressed the Society on "The Evolution of Medicine in the Past Forty-five Years," and Dr. Philip Fox read a paper on "The Doctor".

FOND DU LAC COUNTY

The annual meeting of the Fond du Lac County Medical Society was held at the Bellevue, Fond du Lac, on November 20th, and the following officers were elected: President, Dr. D. J. Twohig; vice-president, Dr. M. M. Scheid; secretary-treasurer, Dr. H. C. Werner; censors, Drs. S. E. Gavin, F. M. McGauley and U. Senn.

A paper on the Sanitation of Cities was read by the retiring president, Dr. L. A. Bishop. More attention is to be devoted to the application of the subject locally, toward the end that Fond du Lac will have a sanitation commission, which will handle the perplexing problems that occur in that department.

KENOSHA COUNTY

The annual business meeting of the Kenosha County Medical Society was held at the home of Dr. J. F. Hastings, Dec. 5, 1913.

Dr. F. E. Andre, chairman of the committee to revise a fee schedule for the county made his report. After much discussion a schedule was recommended by motion for the guidance of Kenosha county physicians, with the emphasis laid on the guidance. The secretary's report was then read. The Kenosha County Society's membership for 1913 is thirty-eight, a gain of two over 1912. Lost by transfer Dr. J. T. Corr and by death Dr. Geo. T. Kimball. New members are: Drs. J. J. McShane, M. A. Bernstein and T. W. Ashley. There are only five physicians in the county who are not members of the Society. During the year regular meetings were held, an outing at Twin Lakes and the Society attended the funeral of Dr. Geo. T. Kimball in a body. The average attendance for the year was 18—the greatest number was 24—the lowest 12.

The financial report showed the following:

Balance Jan. 1, 1913.....	\$ 6.42
Received dues 1913.....	145.00
Received for city work.....	99.98

Total	\$251.40
Expenses for the year.....	166.73

Balance	\$84.67

The election resulted as follows: Dr. C. H. Gephart, president; Dr. J. F. Hastings, vice-president; Dr. A. J. Randall, secretary-treasurer; Dr. Geo. F. Adams, censor.

C. H. GEPHART, *Secretary*.

A regular meeting of the Outagamie County Medical Society was held Nov. 18. Meeting called to order by President Dr. C. G. Maes. Minutes of previous meeting read and approved. A communication from the County Board of Supervisors of Outagamie County requesting the society to name two of our members as possible candidates to the position of Trustee to the Riverside Sanitarium was received. Drs. C. D. Boyd and G. A. Ritchie were then selected as such members. A motion was made and carried to make a special assessment of 50 cents per member to reimburse the treasury. Moved and carried that the president appoint a committee of three to amend the constitution and by-laws so as to be acted upon at the next regular meeting as regards the meetings of the society and as to the annual dues. The president appointed Drs. Mills, Ritchie, and the secretary. Applications of Drs. Pratt, Cox, and Hegner were received and laid over till next meeting. Dr. R. C. Mullenix of Lawrence University read a paper on Evolution, which was very interesting. A vote of thanks was extended to Dr. Mullenix. Dr. V. F. Marshall gave us a very interesting talk on The Surgery of Infancy and Childhood. There were 18 members present. On motion the society adjourned.

FRANK P. DOHEARTY, M. D., *Secretary*.

WAUKESHA COUNTY

Waukesha County Medical Society held its annual business meeting on December 8th and elected the following officers: President, Dr. W. S. Wing; vice-president, Dr. Fred Woodhead; secretary-treasurer, Dr. S. B. Ackley.

WEST WISCONSIN DISTRICT MEDICAL SOCIETY

The auditorium of the public library, Eau Claire, was the scene on Nov. 23, of a very interesting gathering of members of the medical profession. It was in the nature of the annual meeting of the West Wisconsin District Medical Society.

During the morning surgical clinics were carried on at the hospitals and Dr. N. M. Percy of Chicago, who is associated with Dr. A. J. Ochsner, did the bone surgery.

The afternoon session was in progress at the auditorium of the public library and proved an interesting and instructive gathering to the profession. The program was made up of addresses and papers by men who are high in their profession. In fact every physician who read a paper is a teacher in some medical college. Dr. J. V. R. Lyman of Eau Claire, who has been president for two years, presided.

The first topic on the program was "Non-Conventional Methods in the Practice of Obstetrics," ably handled by Dr. Frederick Leavitt of St. Paul, professor of the University of Minnesota. The discussion was opened by Dr. E. S. Hayes of this city.

"Some Practical Hints in the Diagnosis of Chest Diseases," was the subject of another interesting paper by Dr. L. F. Jermain of Milwaukee. The discussion was

opened by Dr. Karl W. Doege of Marshfield, and Dr. E. L. Mason of this city.

"The Open Treatment of Fractures, with a Report of Cases Operated During the Past Three Years," was the topic handled by Dr. N. M. Percy of Chicago, proving a matter of much interest to all. The discussion was opened by Dr. F. M. Dodd of Ashland, and Dr. Christian Midelfart of this city.

Dr. Lerche, a former associate of Dr. Midelfart of Eau Claire, now of St. Paul, gave an illustrated address on diseases of the esophagus, presenting some wonderful instruments perfected by himself. At the close of the stereopticon talk, an illustration was made when a long glass tube was put into the esophagus of a woman patient, the electric light turned on and there was clearly shown an ulcer in the middle passage.

The election of officers took place during the afternoon session and resulted as follows: President, Dr. E. E. Tupper, Eau Claire. Secretary, Dr. J. C. Baird, Eau Claire.

A largely attended banquet was held at the Galloway House in the evening. The guests were seated at the festal boards at 8 o'clock and it was exactly 10 o'clock before the oratory began to flow, which lasted till the midnight hour. Dr. R. F. Werner of this city presided as toastmaster, and he performed the duties in a manner that did not have a tendency to at all times pour oil upon the troubled waters. He had a faculty of "rubbing it in" to the queen's taste. His flings of witticism however, were of the pointed kind and were accepted in the manner in which they were intended.

The three set speeches of the evening were clever to say the least and delivered according to the regular set program and were as follows:

"The Humorous Side of Tuberculosis," Dr. Hay, Stevens Point.

"The Country Doctor—The Under Dog," Dr. N. Werner, Barron.

"Ireland Thirty-six Years Ago and Today," Dr. W. R. McCutcheon, Thorpe.

Each of the above were replete with strains of humor, especially the first two. The latter by Dr. McCutcheon, while lacking in the volume of humor, was replete with interesting facts concerning his native land from which he immigrated thirty-six years ago.

Short stories (but true) were told by the following of the profession: Dr. Buller, Menomonie; Dr. Crane, Osseo; Dr. Larson, Colfax; Dr. Ribenack, River Falls; Dr. Cairn, River Falls; Dr. Mason, Eau Claire, and last but not least, Dr. Clancey of this city.

Time and disposition would not permit of a verbatim report of the oratorical flow of the evening, but it may be said to the credit of the medical profession of west Wisconsin that there are among them some of the elements of the great after-dinner speakers of the country, and as for the story tellers they were immense, although silence is a virtue in as far as some of them are concerned. But in the common expression of the term, they were good—immense, especially the one of Dr. Clancey, which being the last on the program, left pleasant memories of a well spent evening—the clock striking the hour

of midnight when the guests dispersed. Ninety members were present.

INTERURBAN ACADEMY OF MEDICINE.

The Interurban Academy of Medicine, an organization which meets alternately in Superior and Duluth, met on November 20th at Superior. About thirty members attended. Dr. C. D. Conkey of Superior was elected president, Dr. C. F. McComb of Duluth was named vice-president; Dr. A. G. Hovde of Superior, secretary and treasurer and Dr. Homer Collins of Duluth, censor. Papers were read by Drs. E. L. Twohey, Duluth and Dr. O. W. Rowe, Duluth. After the meeting a banquet was given.

BOOK REVIEWS

SYPHILIS AND THE NERVOUS SYSTEM. By Dr. Max Nome, Chief of the Nervous Department in the General Hospital, Hamburg, Eppendorf, authorized translation from the second revised German edition by Charles R. Ball, B. A., M. D., Chief of the Nervous and Mental Department, St. Paul Free Dispensary. 400 pages, 98 illustrations. Price \$4.00. J. B. Lippincott Co., Philadelphia, publishers.

The recent increased interest in syphilis of the nervous system, due largely to the discovery of the spirochaeta pallida in the brains of paretics and the treatment by salvarsan has created a demand for some book that would gather together the scattered facts into one volume. Before us is the most successful attempt we have seen. Unfortunately discoveries follow one another with such rapidity that much that is really worth while in recent literature cannot be incorporated in the very latest text book.

Dr. Ball's translation has given to those who do not read German easily a book which is recognized abroad as an authoritative work. The profession is in his debt. This translation is taken from the second German edition and except for the omission of many references and some case reports is essentially a literal translation. The book is divided into nineteen chapters including a general introduction and a chapter on salvarsan therapy. Prof. Nome has done much to advance our knowledge of the diagnosis of cerebro-spinal syphilis and in this book he describes very fully his four reactions. Phase I globulin reaction, increased cell count of the spinal fluid (pleocytosis), Wassermann Reaction in the blood serum, and Wassermann Reaction in the spinal fluid. The subject of the pathology of syphilis of the nervous system is excellently presented. In no other book have we seen such a complete discussion of syphilitic basal and cerebral meningitis.

Dementia Paralytica and Syphilis, Syphilis of the Spinal Cord, Meningomyelitis, Tabes and Syphilis, Cerebrospinal Form of Syphilis, Syphilitic Disease of the Peripheral Nerves, etc., are among the subjects fully discussed.

The importance of the subject of syphilis of the nervous system cannot be overestimated and hence we wel-

come to our shelves a book such as this one of Prof. Nonne. We have read it with interest and profit and we wish that many might possess it and read it carefully.

The book is printed in large type and the illustrations are well reproduced. There are numerous references collected together at the end of the book and a very complete index.

L. M. W.

A CLINICAL MANUAL OF MENTAL DISEASES. By Francis X. Dercum, M. D., Ph. D., Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia. Octavo of 425 pages. W. B. Saunders Company, Philadelphia and London, 1913. Cloth, \$3.00 net.

This book is offered by the author as a treatise essentially practical to the student and general practitioner. Viewed in this light its merit is unquestioned. While the author uses his own classification, the same can readily be adapted to the more commonly used, that is, the Kraepelin, method of classifying mental diseases. The subject matter is arranged in a very comprehensive manner. In Group I, he discusses in detail the mental diseases that are more or less definitely connected with physical states. In Group II, he includes the mental conditions that are ordinarily referred to as functional disturbances, that is, the Manic Depressive Psychoses. A chapter is devoted to Dementia Praecox and Paranoia, another to Neurasthenic insanities, and finally in Group V, the author considers the Dementias. Some difference of opinion may exist as to the classification the author uses but the conditions are so well described that the terminology alone does not detract from the value of the book.

In Part II, Chapter I, the author considers the clinical forms of mental disease in relation to somatic affections, that is, the mental disturbances ascribed to syphilis, tuberculosis, malaria, pellagra, rheumatic fever, and those dependent upon intoxications, the most important of which is alcohol. The mental phenomena that occasionally accompany diabetes, gout, and disease of the ductless glands, as well as diseases of the nervous system, such as epilepsy, hysteria, chorea, and paralysis agitans, are discussed in this chapter. Under organic diseases, he considers paresis, cerebral syphilis, arteriosclerosis, circulatory disturbance of the brain, abscess, tabes, brain tumor and trauma. A chapter is devoted to idiocy and allied conditions also to the mental disturbances that manifest themselves at the various epochs, such as adolescence, adult age, middle age and old age. A chapter entitled "Psychological Interpretation of the Symptoms" contains a very comprehensive description of a recent trend, that is, the so-called Freudian Psychology. Despite the author's evident distrust of the deductions of this school, more reasons for his lack of sympathy with the Freudian methods should have been given.

For the general practitioner, however, and for the student who cannot afford the time to peruse an elaborate description of abnormal psychology but who requires a practical manual that is serviceable at the bed side, this book will be found very useful.

A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS. For

Students and Physicians. By John H. Musser, M. D., LL. D., late Professor of Clinical Medicine in the University of Pennsylvania; formerly President of the American Medical Association, etc. New (sixth) edition, revised by John H. Musser, Jr., B. S., M. D., Instructor in Medicine in the University of Pennsylvania; Assistant Physician to the Philadelphia Hospital; Physician to the Medical Dispensary of the Presbyterian Hospital; Physician to the Medical Dispensary of the Hospital of the University of Pennsylvania. Octavo, 793 pages, with 196 engravings and 27 colored plates. Cloth, \$5.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

In the sixth edition of this deservedly popular work Dr. J. H. Musser, Jr., has carried out the plans and methods pursued by his father in the fifth edition which appeared several years before Dr. J. H. Musser's death, but the enormous advances in medical science during the past eight years have made necessary a thorough revision of many of the sections. Advantage has been taken of this opportunity to effect some rearrangements and condensations so that the present edition is of a convenient size in spite of the additions which have been made.

In the sections on the infectious diseases of the cardiovascular system, the metabolic diseases, the diseases of the gastro-intestinal and urinary systems, much new material has necessarily been incorporated on account of the many recent additions to our knowledge of the causes and manifestations of these conditions. The chapter on the infectious diseases has been divided into two parts, the first containing those diseases due to vegetable organisms, the second those due to animal parasites. New sections have been added to the discussion of the disturbances of the internal secretions. A new chapter has been added dealing with the various functional tests of organic efficiency that have proved of such value in diagnosis and prognosis in the last few years. The sections on laboratory diagnosis have been extensively revised, and only those important tests have been inserted which may be performed in such a clinical laboratory as every physician could and should possess. In the section on physical diagnosis many changes have been made, particularly in the division dealing with the graphic methods of diagnosing cardiac disorders, and new illustrations have been added representing the various types of arrhythmia.

This work is particularly valuable for the general practitioner or student on account of the systematic and practical manner in which the subject is handled. It opens with a consideration of the data, methods, and objects of diagnosis, followed by a helpful chapter on the taking of histories.

Section II considers the data obtained by inquiry, taking up in separate chapters such topics as General Subjective Symptoms, Pain, Dysnea and Cough, Dysphagia—Vomiting—Changes in Appetite, Hiccough, Diarrhea and Constipation, the Voice and Speech.

Section III is devoted to the data obtained by observation, and takes up in turn in eleven chapters the details of the various regions and tissues and systems of the body.

In Section IV physical diagnosis is discussed under

the headings of General considerations and Methods, Physical Diagnosis of Diseases of the Heart and Blood-vessels, of Diseases of the Lungs, of Diseases within the Abdomen, and the Roentgen Ray in Medical Diagnosis.

Under the heading of Laboratory Diagnosis, Section V deals with the methods of examination of the blood, saliva and sputum, stomach contents, urine, feces, and takes up the consideration of Exploratory Puncture and the Functional Tests of Organic Efficiency.

Part II, Special Diagnosis, begins with a chapter on the Specific Infectious Diseases, considering each one under the headings of symptoms, varieties, complications and sequelae, laboratory diagnosis, diagnosis, differential diagnosis. This is followed by a chapter similarly arranged on the Diseases Due to Animal Parasites. Following these are chapters on Sunstroke, the Intoxications, Metabolic Diseases, Diseases of the Blood and Ductless Glands, of the Nose and Tongue, of the Lungs and Pleura, Heart and Bloodvessels, Mouth, Tongue, Pharynx, and Esophagus, Peritoneum, Retroperitoneal Glands, Stomach and Intestines, Liver and Pancreas, Kidneys, Muscles, and of the Nervous System.

The ground is covered thoroughly and in a clear and eminently practical manner. We have no hesitation about commending this volume to our readers.

DIET IN HEALTH AND DISEASE. By Julius Friedenwald, M. D., Professor of Gastro-Enterology in the College of Physicians and Surgeons, Baltimore; and John Ruhrah, M. D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Fourth edition, thoroughly revised and enlarged. Octavo of 857 pages. W. B. Saunders Company, Philadelphia and London, 1913. Cloth, \$4.00; Half Morocco, \$5.50, net.

In the new edition of this excellent work the authors have added a section on the mechanism of digestion and have largely rewritten the chapter on metabolism and the prescribing of diet. New tables have been added to the considerable number contained in the preceding edition and their value is everywhere apparent. In them is gathered an enormous amount of useful information in a form which makes it readily accessible. As the authors say in the preface: "The practitioner wants to know how much food to give and what kind, and he wants to be told how to be able to prescribe a diet as simply as he would a drug." We know of no book which gives this information so fully and so well as the present volume.

The Chemistry and Physiology of Digestion are discussed in the opening pages, after which is taken up a consideration of the Classes of Foods, Beverages and Stimulants, Various Factors in Their Bearing on Diet, Infant Feeding, Diet for Special Conditions, Special Methods of Feeding, Diet in Disease, Special Cures, Dietetic Management of Surgical Cases, Army and Navy Rations, Dietaries in Public Institutions, Recipes, Chemical Composition of American Food Materials, Rapid Reference Diet-Lists, Sample Pamphlet of Information for Distribution among the Poor in Summer, Weights and Measures, and a Short List of Books on Food and Diet.

This outline gives an idea of the comprehensive char-

acter of the book. The authors have succeeded in giving a thoroughly practical form to their work, presenting it in a form which is simple enough to be used for rapid reference by the busy practitioner, and yet there is sufficient detail to make the way clear for the medical student or hospital interne.

NEUROLOGY OF THE EYE. Wilbrand, H., Ophthalmologist, and Saenger, A., Neurologist, to the General Hospital St. Georg, Hamburg. Fifth volume. The diseases of the stem of the optic nerve. 656 pp., with numerous illustrations in the text and 10 plates. Wiesbaden. J. F. Bergmann. 1913. 25 Mk. \$6.25.

The 5th volume of this magnificent encyclopedic work contains the diseases of the optic nerve in its orbital portion under 3 large groups: The inflammatory conditions (neuritis, foci in multiple sclerosis and metastases) with their sequels (neuritic atrophy), the purely atrophic conditions (primary, descending atrophy, atrophy by pressure), and the interruptions of continuity (traumatism). After a general introduction on the ophthalmoscopic picture, the functional disturbances, course and prognosis, the essence and pathogenesis of optic neuritis as idiopathic, propagated descending and ascending, secondary, sympathetic neuritis, metastatic foci and inflammatory foci in multiple sclerosis, the chapter on optic neuritis alone occupies 443 pages. For subdividing the great variegation of optic neuritis into certain fundamental forms the authors took as anatomical base a cross section of the intraocular or intracranial portions of the optic nerve, because here the papillomacular fascicle, which if diseased produces a central scotoma, lies in the axis of the optic nerve. By this anatomical arrangement only here the comparison of the topography of the inflammatory focus with the form of the defect in the visual field is made very simple. The one represents almost the reflected image of the other. Hence the authors distinguish axial neuritis, interstitial, peripheral, and total transverse optic neuritis, and elaborately discuss them under these headings. The etiology of simple optic neuritis is presented under infections as syphilis, tuberculosis, acute exanthemas, typhoid, malaria, etc., phlegmon of the orbit, empyema of the accessory sinus of the nose, in the puerperal state, diphtheria, influenza, etc., acute myelitis, polyneuritis, meningitis, and intoxications, with references to the more detailed expositions under the 3 fundamental forms, in order to avoid repetitions. Then follow 100 pages on optic neuritis in multiple sclerosis. The next chapter is devoted to the atrophic conditions of the optic nerve, introduced by a paragraph on the pallor of the optic disc, with a very exhaustive discourse on the progressive atrophy in tabes, and the last chapter to the interruption of continuity of the optic nerve. The literature is extensively utilized, and the bibliography of 1628 numbers is given. A table of contents and alphabetical indices of subjects and authors facilitate the use of this great work. The amount of material, symptomatology, pathologic anatomy, clinical histories here collected and splendidly presented is amazing. Its external appearance, paper, print, illustrations and plates are of superior quality. C. ZIMMERMANN.

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ORIGINAL ARTICLES

THE LOCAL SKIN REACTION FOLLOWING INTRADERMAL INJECTIONS OF TUBER- CULIN AS A GUIDE TO TUBER- CULIN THERAPY.*

BY O. E. LADEMANN, M. D.,
MILWAUKEE.

Let it be emphasized that tuberculin is subordinate to the natural forces of stimulating and maintaining resistance, consequently should always be reinforced by correct living, fresh air, rest, suitable diet, etc. That tuberculin is a valuable remedy, when in the hands of one trained in its use, is unquestionable. It must be understood, however, that tuberculin is a cure for tuberculosis and not a cure for consumption. He who expects tuberculin to rehabilitate structural changes, as the replacement of necrotic tissue with newly formed cells, or to fill cavities with functioning lung tissue and the like, looks forward to the impossible.

The question of dosage is still at a variance of opinion. The Germans tend towards the administration of doses large enough to produce a constitutional reaction, while the English are mainly guided by the opsonic index method as suggested by Wright. In this country the method of giving small doses, gradually increasing, has been adopted by our foremost phthisio-therapists. As the curative action of tuberculin not only depends on its properties to increase the patient's immunity to the tubercle bacillus and its toxins, but also on the stimulating action upon the tissues about the focus of infection, the most rational dosage would be one to stimulate the defensive powers with sufficient focal stimulation without a constitutional reaction. That marked beneficial effects follow injections of tuberculin in doses large

enough to produce a focal reaction have been experimentally shown by Trudeau and others. In an article by the above author he says: "Improvement in the lesion may depend on the influence of these mild reactions, but in considering the advisability of utilizing mild general and focal reactions as a feature of treatment, we must not forget that we have no means of controlling the severity of these reactions and that violent reactions are not without danger." Personally, I believe the generally accepted method of beginning with infinitesimally small doses and gradually increasing to the point of tolerance is unsatisfactory, inasmuch as there is a marked degree of uncertainty, and certainly the small doses given in the start, except, perhaps, in isolated cases, are without the slightest beneficial effect. In 1910 White and Van Norman published an article, "An individual quantitative index to tuberculin dosage in treatment." They determine the dose by means of a skin reaction which they term a minimal cutaneous reaction to definite quantities of tuberculin. I have given their method an extended trial and found it an admirable guide as to dosage. In my series of cases I have departed from the method suggested by the above authors inasmuch as I applied the intracutaneous test as defined by Mantoux, Roux, and others, as a guide to dosage. My observations on local reactions at the site of the injection in dimensions which I use as my standard, do not warrant me in concluding that the limit of safe dosage has been reached, as regarded by Pottenger. On the contrary, there is every reason to believe, as Sprengler has suggested, that the reaction in the tuberculous focus and in the cutaneous tissue is coextensive in point of time.

In the choice of preparations it is perhaps not the quality of the tuberculin as much as the qualifications of the one who gives it. My studies are limited to the use of a solution of tuberculin poison as contained in T. O. As a matter of convenience for measuring the local reaction, I use

*Read at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 1, 1913.

the flexor side of the arm, alternating arms with each subsequent injection, avoiding any infiltration which might have remained from a previous inoculation. It is essential to insert the needle to its hilt and to inject the entire contents of the syringe before removing. Injections were made intradermally at weekly intervals. At this point it may be well to mention my method of diluting tuberculin. One part of original T. O. to nine parts of diluting solution (a sterile 0.9% sodium chloride and 0.25% phenol solution) given a 10% tuberculin solution. This I designate as my stock solution and from it all higher dilutions are made. A fresh stock solution is made every two weeks as solutions of this strength retain their potency for a much greater period of time than that for which they are intended. All other dilutions are prepared at the time of the injection. Incidentally I will remark that serial dilutions as purchased on the market are of little or no value for the reason that their potency is usually lost by the time they are used. No one has a right to administer tuberculin who does not make his own dilutions. My dilutions for injections are made as follows:

1/10% (1 part stock solution, 99 parts diluting solution.)

2/10% (2 parts stock solution, 98 parts diluting solution.)

3/10% (3 parts stock solution, 97 parts diluting solution.)

4/10% (4(1) parts stock solution, 96 (24) parts diluting solution.)

5/10% (5(1) parts stock solution, 95 (19) parts diluting solution.)

The amount of tuberculin contained in each C. C. will represent in milligrams the corresponding tenth per cent. For example 1 C. C. of a 1/10% solution will contain 1 milligram of tuberculin, 1 C. C. of a 2/10% will contain 2 milligrams, 1 C. C. of a 3/10%, 3 milligrams, etc.

The amount of tuberculin contained in each tenth C. C. will represent in tenth milligrams the corresponding tenth per cent. For example, each 1/10 C. C. of a 1/10% solution will contain 1/10 milligram of tuberculin, each 1/10 C. C. of a 2/10%, 2/10 milligram, each 1/10 C. C. of a 3/10%, 3/10 milligram, etc.

I determine a dose of tuberculin which when injected intradermally bears a definite relation between local and focal cellular reactivity. Once having determined such an amount all future in-

jections are of the same dose and continue so as long as this ratio is constant. A dose which will produce a local reaction, consisting of tenderness and redness, the latter measuring in any diameter not more than 6 cm. or less than 4cm. within 72 hours after the injection has proved, in my hands, one which will give a mild focal reaction, as expressed in an increase in cough, expectoration, etc., and in cases of visible lesion, hyperemia without any evidence of a constitutional disturbance.

The average initial dose required to produce a skin reaction measuring between 4 and 6 cm. in my series of cases was 1/10 mg., the smallest 1/60 mg. and the largest 1 mg.

In a given case I proceed by injecting 1/10 mg. of T. O. Should the skin reaction appearing in the next 72 hours be within the 4 by 6 cm. limits, the proper dosage has been determined. If the measurements be less than 4 cm. or greater than 6 cm., I respectively decrease or increase the subsequent dose. With a little experience one can readily determine the suitable dosage in this manner. The duration of treatment varied from a short time to a period of two years. The maximum dose given any individual during the course of treatment was 5 mg. In all there were eighty patients treated under this plan. With the exception of two cases, a genito-urinary tuberculosis, and a tuberculous arthritis of the shoulder, all were of the pulmonary type in a more or less advanced stage. Among the latter there were two with a laryngeal involvement. Out of the total of 1,155 injections given there was an elevation of temperature varying from 99° to 100° F. thirteen times. These elevations of temperature can hardly be looked upon as a constitutional reaction but must be regarded as temperatures occurring during the course of the disease, as in each instance these subfebrile rises occurred in individuals who had received stationary doses of tuberculin for some time previous without any rise in temperature. One patient, a woman, complained of malaise and exhaustion after each injection. In this instance the temperature remained normal. The general impression given me was that her complaints were either a sham or a psychic affair. The expedient of injecting sterile water instead of tuberculin with no subsidence in the effect proved my suspicion. In one instance there was a local hypersusceptibility. The patient, a girl of 15 years, had been receiving a dose of 4/10 mg. for ten consecutive injections,

when suddenly this dose, instead of producing a local skin reaction of 5 by 5½ cm., as on previous injections, measured 8½ by 8½ cm. Reducing the amount of tuberculin to 1/10 mg. brought the local redness to within 4 by 6 cm. limit. Later on the dose, as indicated by the local reaction, was increased to 6/10 mg. Pain and tenderness at the site of the injection were at times complained of. In several instances increased expectoration and excessive coughing was a symptom, the latter especially pronounced in those cases where the local reaction exceeded 6 cm. In most of the cases there was a gain in weight, in some this gain was from 20 to 30 pounds. There were some whose weight remained stationary and in a few instances there was a progressive loss. The latter steadily lost in weight prior to the tuberculin administration and after its cessation the loss was even more marked than during the time of treatment.

All cases, excepting one, were afebrile. This exception had been running a high temperature uninfluenced by a prolonged rest. Twelve injections, beginning with the usual 1/10 mg. and increasing to 7/10 mg. not only brought about a subsidence of temperature but during this period there was a gain of 13 pounds. No fixed interval can be stated with reference to the number of times a certain dose is to be injected before the size of the local reaction changes. In some cases a given dose produced a constant skin reaction for a period as long as 2½ months, in others again it was increased at the following injection. The amount to be increased at an injection is also variable, in some cases 1/20 mg. would suffice to bring the local reaction to the required measurements, in others 1/10, 2/10 mg. or even a larger increase would be necessary. I regret that I am unable to report the condition or whereabouts of the majority of those treated. To keep track of patients treated at the County Hospital Annex, where most of my work was carried on, is a matter little short of an impossibility. There were two patients who died of pulmonary hemorrhage, and two from an advanced stage. The two laryngeal cases made complete recoveries as far as the larynx was concerned. The genito-urinary case is apparently cured, the one with a tuberculous shoulder joint having had no symptoms for a long time, regarded herself as cured and discontinued further treatment in spite of the warning given. A year later another abscess formed. Since again taking tuber-

culin matters have so changed as to offer excellent chances for a complete recovery with a fairly useful arm. The patients who left the hospital all showed improvement in their state of nutrition, and some of them showed no tubercle bacilli in their sputum. One of the latter is an instance worthy of note. The patient had been at the State Sanitarium. During his stay at this institution he lost over twenty pounds in weight. At the Annex he tipped the scales at 135 at the beginning of the treatment. When he left the hospital he weighed 162 pounds. As this paper is more in the nature of a preliminary report, I do not feel warranted in deducing any conclusion, but it seems to me that the local skin reaction following intradermal injections is a valuable guide in tuberculin therapy. Since the question is not one of tuberculin tolerance but of establishing the normal ratio of resistance we have by this means of administering a method in which the therapeutic effect of cellular reactivity is uniform.

DISCUSSION.

DR. CHARLES H. STODDARD: Mr. President, and Members of the Society: I have been watching Dr. Lademann's work along this line in the use of the White and Van Norman tests for determining the dosage of tuberculin, with some interest. After taking up the use of tuberculin, like everyone else I became very enthusiastic as to the results which I obtained. I have in the course of time modified that opinion in various ways. I found certain very beneficial results during the first year or two or three years, which I ascribed entirely to the tuberculin. I feel now that those must have been merely cases that would have probably done well anyway, as tuberculosis cases will do. I do feel however, that at the present time I am able to select from my cases those in which a tuberculin treatment will promise something of a success. We have all made our attempts at immunizing patients with tuberculin from various points of views. Starting out with the assumption that tuberculosis is a disease which limits itself to the tubercle and the immediately surrounding tissue in a larger number of cases, that the toxin is an intracellular toxin, and our attempts at immunity consist of attempts in immunizing the immediately surrounding tissues, then we go from that to the point of excluding from treatment those cases in which more or less of a mixed infection has occurred. The open cases, I should say, are cases which offer much less prospect of improvement. The cases which at the present time offer the greatest chances for help from the use of tuberculin are these: the surgical cases, the laryngeal cases, and closed cases that is the cases of pulmonary tuberculosis which have not as yet formed cavities, and are not at present throwing off tubercle bacilli. In other words, if you can

bring your patient to the condition where you merely are beginning to find in the lung a slight infiltration, where there is practically no cough, and if there is cough with expectoration, no tubercle bacilli are found and if possibly you are making your diagnosis on a very slight daily rise in temperature of half a degree to a degree, I feel that my results justify my statement that those cases will be helped by tuberculin treatment. I think there is more and more skepticism every day in regard to the benefits of tuberculin treatment. I would be willing to abandon the tuberculin treatment myself at any time, providing our friend Friedmann or somebody were to come along with something better. But recognizing the fact that we have no better treatment, this is an attempt at creating a certain degree of local immunity, and I feel that we are to this extent justified in continuing with tuberculin treatment. As for the best method I believe that either of the several preparations are good. I am at present using the Bouillon filtrate having at first used the Bacillen Emulsion, believing that with this preparation I have fewer temperature reactions.

DR. T. WILLETT, West Allis: I have never used the method of intradermal injection which Dr. Lademann speaks of. I read a paper a few years ago by White, on the matter. I don't really see very much object in bringing it up because as a matter of fact, by taking very small doses, continuing them and bringing them up very rapidly, as it should be done, giving an injection every other day, watching your patient, you can very quickly find the dose which your patient will tolerate. I usually stop not at the dose that produces the fever, but give a dose that produces a slight reaction, and continue on that, and as they become more tolerant to that, then advance the dose. It seems to me that is as good a method as one can use, and with less uncertainty than we get in this intradermal method. As Dr. Stoddard says, in first giving tuberculin we were enthusiastic. I remember I read that paper of Bandelin, I think it was in 1910 or 1911, in which out of 200 cases, nearly all of them lost the tubercle bacilli in the sputum, and the reports were most unusual; and after that a great many reports of a similar character. I cannot help but think that every time it is a matter of personal environment, and we always get what we look for. When we remember the erratic characteristics of these people it is doubtful whether the tuberculin is actually a cure at all. In tuberculous arthritis, tuberculous laryngitis, where it is not part of the pulmonary processes, a local process purely, the results we get are very good indeed. Also in cases particularly of children and young women in which the conditions went along for months and years without any particular change, in which the tuberculin was given to wake the process up, we did get actual results. However, as a palliative measure in advanced tuberculosis it is certainly a fact that in those cases the cough is relieved. The stomach symptoms always so bad, disappear, the pain and lassitude clear up, the anorexia is nearly always relieved. However, I cannot think that in those cases it will ever be anything

practically of a cure; simply palliative. It is unfortunate that Dr. Lademann could not follow up these cases and have the thing done, because after all the only test of whether it is valuable or not, is in a year, or two years or more. Another thing in so many of those cases by just changing the method of treatment under different circumstances you nearly always get some results for the better temporarily.

DR. HAY: I do not believe that in the use of any medicine excepting the anesthetics is the personal factor of greater importance than in the use of tuberculin. I believe that in the use of tuberculin a man has to go through a course of psychologic evolution before he arrives at any standing point in the use of the drug. About seven or eight years ago I began the use of tuberculin and used it for about two and a half years. The doses which we were using then, or rather I was using, seemed to me so intangible that it was unreasonable for any practical man to make use of the remedy, so I ceased to use tuberculin purely on that account, and because it seemed to me that I got no effects whatever from its use, except untoward effects when the dosage was carried too high. After a year of using no tuberculin, I began again, and I believe that I have gotten through my course of psychologic evolution. I am convinced today, and absolutely convinced, of the efficacy of tuberculin in the treatment of tuberculosis, if it is properly used. When it comes to the question of dosage, I do not believe that the size of the dose has anything to do with the results that you attain. I have limited my dose to a maximum of 100 milligrams for it appeared to me to be a waste of good tuberculin to go beyond that point. If 100 milligrams of tuberculin will not produce results in a case, it seems to me ridiculous that sensible men should go beyond that dose and pour buckets of tuberculin into the carcasses of men. To shorten up these remarks and get down to the subject of the paper in regard to these local manifestations, I am very sorry that I could not hear the doctor's paper as distinctly as we should have heard it, but as I understood him to say, the smallest dose which gave any local reaction was 1/60th of a milligram, and the largest one milligram. Four years ago I reported to Dr. Ravenel of the State University that in the use of bovine T. R. in one case in which I was using it, I got a distinct systemic and local reaction every time on the fourth day following even so small a dose as one one-millionth of a milligram. Dr. Ravenel smiled and said nothing. I afterwards doubted whether I was right or not in the matter, but within the last six weeks I began the use of Bouillon Filtrate in a case which I have had under observation for five years. (the diagnosis was made five years ago of caries of the spine) with a dose of one-half milligram, which gave in six hours a focal reaction of such character that the patient was waked from her sleep and had to sit up the rest of the night. That patient has always given remarkable local reactions. I began five weeks ago in another effort to give this patient tuberculin with a ten-millionth of a milligram. On that ten millionth of a milligram I had irritation at the

point of puncture, with marked tenderness on pressure. On an eight millionth of a milligram there was a very faint areola about the point of puncture, with very slight infiltration. On about a six-millionth of a milligram there was a light redness perhaps two and one-half centimeters in diameter, with slight infiltration, with about a three-millionth of a milligram we got marked local reaction. Following the three-millionth we had some of those dark red, or reddish black marks on the arm, which are persisting up to the present time, nearly three weeks old, or about that. A twenty-five-hundred thousandth of a milligram produced practically no reaction at all. The patient was given a dose on Monday last, but I know nothing of the result.

If I may make one more remark, which is a very important one, and which I intended to make in closing: It seems to me that within the last eight or ten years there has been too much reliance placed upon the therapeutic treatment of tuberculosis, especially in the matter of tuberculin. There are men treating tuberculosis entirely with tuberculin. I believe that it is a mistake. I believe that no remedy in the treatment of tuberculosis should be neglected, and it is a mistake for physicians to treat cases of tuberculosis in their offices with tuberculin, tell them to go to the theaters, permit them to hang around the saloons of the town, drink beer and have a good time, and expect to get cures, for they can't get them. They must not rely upon tuberculin alone.

DR. WARFIELD: Before I start with what I have to say I should like to endorse most heartily with all the endorsement I can possibly give, what Dr. Hay has just this moment said. I do not think we can impress that too much upon the profession, and upon the laity. Whatever viewpoint one may take in regard to the treatment of tuberculosis by tuberculin it seems to me that we have at least now a means of measuring approximately the tolerance of the individual to tuberculin, something that we did not have before in any scientific manner. We gave tuberculin and waited until the patient reacted, then we came back again to a dose just short of a reacting dose, and we held to that, or we tried to raise it. As Dr. Lademann has said, we gave immunity doses following White's method, or we gradually gave a rising dose, following Trudeau's method and others, in this country. Dr. Lademann's paper is entitled "An Intradermal Injection of Tuberculin." There is just as much difference between an intradermal injection and a subcutaneous injection, as there is between a subcutaneous injection and an intravenous injection. The intradermal injection of tuberculin is a different thing entirely from the old subcutaneous. The discussion that has been going on so far has evidently been going on along the old idea of subcutaneous injection of tuberculin. Now this is a different thing. In this process the tuberculin is injected so closely beneath the epidermis that it never reaches beneath the true skin. It is actually given into the malpighian layer of the skin, if one can do that, and I think it is possible to do it. So that this method of giving tuberculin is different entirely from

the old subcutaneous method, and a reaction that is marked in this method by a measurement of a reddened swollen area of four by six centimeters is taken arbitrarily by Dr. White and Dr. Van Norman as the reactive power of that individual to any tuberculin dosage. Of course we understand that immunization to tuberculin is not immunization to tuberculosis. Certainly after using tuberculin for the last eight or nine years I am not convinced in my own mind that tuberculin therapy is of any great value. If I had my choice I would feel like Dr. Stoddard. It is something that we have that has been recommended, and it certainly seems in some cases to have done good, and I have used it. I do not use it because I have confidence that it will cure the patient, but I use it together with everything else in the treatment of tuberculosis, because my impression is, although I cannot prove it by statistical evidence, that in certain selected cases it has seemed to get the patient, so to speak, over the rise and carry him on to a better progress in health than he could have had, had he not had tuberculin. But I think that we should bear this in mind, and this is the point that I wanted to raise and want to emphasize: that this method of giving tuberculin is not a subcutaneous method, but a strictly intradermal method of giving tuberculin.

DR. STODDARD: As I understand, this intradermal method is merely for the sake of determining the dose, and after that it is given subcutaneously.

DR. LADEMANN: Oh, no.

DR. LADEMANN (Closing). It seems there is a whole lot of confusion. At the onset I mentioned in my paper, in fact I emphasized it, that the administration of tuberculin is subordinate to the natural forces of defense, that is, fresh air and good diet. He who expects to accomplish anything with tuberculin without the assistance of these factors, will fail in every instance. I think Dr. Stoddard drifted off on the therapeutic effect of tuberculin, and that was not the intent of this paper at all. It was simply a guide to dosage. I am not here to talk to you about the effects of tuberculin. I think that has been proven time and time again, when it is given properly and in selected cases. My cases were not selected cases. As I mentioned in my paper, they were all more or less advanced; in the second or third stage. Those cases were certainly not adapted to tuberculin, and you certainly cannot expect to rehabilitate structural changes. I think it is said in the article of Wright and Mantoux that a soluble solution of tuberculin is essential in order that the poison may be absorbed by the cells in the skin, to give the skin reaction. When we use bacilli in emulsion, there are toxins in the bacilli which we find in clumps which will not be absorbed, and in that way we will not have a reliable guide.

In reference to Dr. Willett he said it is unreliable. On the contrary, you have right before your very eyes what you are doing. There is every reason to believe that there was a parallelism between your local reaction and your focal reaction, and whenever your local re-

action changed, there must be a change of focal reaction. I have had patients where, after two or three injections of a certain dose, they would show absolutely no reaction. Upon increasing that dose the reaction would come in the former limits and there was a constant stimulation of the natural forces of defense. In the majority of cases say 1/10 of a milligram had the same stimulating effect as five milligrams; that is cellular activity was constant after each injection. Dr. Warfield perhaps covered the major part of my discussion. I think he brought out the points which I did not bring out. The process is one of intradermal injection, not subcutaneous; and there is a vast difference between the subcutaneous and intradermal.

SUBCUTANEOUS TRAUMATIC RUPTURE OF THE INTESTINE WITH REPORT OF CASES.*

BY C. A. EVANS, M. D.,
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By subcutaneous traumatic rupture of the intestine we mean a rupture produced by blunt force applied to the abdominal wall but without penetrating the parietes. Such a trauma may produce injuries to the intestine other than a sudden rupture, as contusions of the gut wall, rupture of some of the coats, or laceration of the mesentery. These conditions may differ from a sudden rupture only in the immediate severity of the injury, as often they, too, cause a later sloughing and rupture.

We have chosen this subject because we feel convinced that the occurrence of this accident is frequent enough, the early diagnosis and early operative treatment rare enough, and the mortality high enough to warrant its discussion.

As to the nature of the applied forces producing intestinal rupture it is sufficient to classify them into compressive and percussive. A compressive force applied to the belly wall would produce a tearing or crushing of the bowel, while a percussive force would produce a bursting or "blow out," due to increased pressure within the gut itself.

As to the mechanism, Andrews' theory is that in all cases of injury by compression "the bowel is cut in two by the angle or promontory of the sacrum against which it is forced by the anterior abdominal wall." He doubts that the bodies of the

vertebrae, with their vessels and other soft coverings, are "sharp and angular enough" to produce such an injury. This theory is substantiated by the fact that most ruptures follow injuries received below the umbilicus, and the intestine most often ruptured is that portion which normally lies low in the abdomen. In Makins' 9 cases the site of injury was below the umbilicus in 8. In Lund's 19 cases it was below the umbilicus in 17. In my three cases it was below the umbilicus in all.

By percussive force is meant that due to the impact of a rapidly moving object, such as a kick of a horse, a piece of wood from a circular saw, etc. Such a force brings about an increased pressure within the bowel, stretches it beyond its limits of elasticity, and a bursting or "blow out" results at the point of least resistance. Chlumsky has shown by experiments on living gut that this point of least resistance is opposite the mesenteric attachment. This is contrary to the usual opinion but is supported by clinical observation. Sauerbruch says that in order to produce a rupture by percussion both ends of the loop of gut must be kinked or occluded at the time that the compression of the contained gases or fluids occurs. Such a condition would certainly favor a rupture by percussion but it is not essential to such a rupture. Some interesting cases of rupture by percussion have been reported. Bottomly reports a case in which the patient was struck on the back below the left scapula producing a bursting of the first part of the jejunum. E. J. Senn reports a bursting resulting from a fall on the buttocks. Bunge reports three cases where an abdominal trauma pushed a knuckle of gut out of a hernial opening and caused bursting. Blows over a hernial sac, containing a loop of gut, often cause a rupture. Cases have been reported where a physician, and even the patient himself, in attempting to reduce a hernia has ruptured the gut. In this case the gut empties itself and the intestine falls back into the peritoneal cavity. Andrews has collected 15 cases of what he classifies as "pneumatic rupture." This is produced by a workman, as a joke, placing the nozzle of a compressed air hose which is used to transmit power for drills, riveters, etc., against the buttocks of a fellow workman and in this way air under from 40 to 125 pounds pressure enters the rectum and bursts the gut, usually the sigmoid. Thirteen of this series of 15 cases died. It might not be out of place here to mention another possible type

*Read before the Milwaukee Medical Society, Oct. 7, 1913.

of rupture, that due to a forced or high pressure enema. The bursting point in a dog's or ox's intestine is from 6 to 10 pounds. The human gut after removal from the body shows about the same bursting point. Senn found on the cadaver of a case of enteritis, that the gut ruptured at one and one-half pounds pressure. An enema bag hung at six feet gives a pressure of about 2 and $4/10$ pounds to the square inch. Such a pressure is dangerous for even a normal gut and especially dangerous for a gut weakened for any reason. McArthur has pointed out the danger in giving such an enema a few days after an appendectomy, when the suture material has begun to soften. He reports two cases where the enema produced a rupture at the appendiceal site, one was fatal, the other recovered after an early operation, the turpentine and soap suds having escaped into the abdominal cavity. Hessert reports a case where an Italian deciding he needed an enema, attached one end of a garden hose to the faucet in the kitchen, inserted the other in his anus and ruptured his sigmoid.

Gage's series of 85 cases may be taken as typical of the causation of intestinal rupture. In 75 the rupture was due to a direct violence. In 32 it was due to the kick of a horse or man, in 19 it was due to a fall, in 6 to a blow by a piece of wood from a circular saw, and in only 9 was it the result of a crushing force. In Curtis' 116 cases the most common cause was a kick. Kermission states that a man kicked in the abdomen by a horse has one chance in three of dying. Nimier collected 307 cases of contusions of the belly wall due to a horse kick, of these 215 recovered and 92 died, a mortality of 30%. Chavasse reports 36 cases due to the kick of a horse and 35 died. I know a physician in country practice who in two years had three patients kicked in the abdomen by a horse and all died. Statistics show that one-third of the patients kicked over the abdomen by a horse have an intestinal injury. The same would surely apply to any blow over the abdomen by a rapidly moving object. The state of the abdominal muscles at the time of the injury plays an important part. If the muscles are contracted in anticipation of the blow there is less liability of intestinal rupture than when they are soft, relaxed, or weakened. Eichel has demonstrated this in his experiments on dogs; in etherized dogs he was unable to produce a rupture by a blow over the ab-

domen when the muscles were contracted by extension of the extremities but when the hind legs were loosened and the abdominal muscles were relaxed a rupture was invariably produced. The "dangerous element" in the causation of intestinal rupture is the "great velocity and small area of the striking force," and the "dangerous area" is below the umbilicus.

In Petry's 219 cases the stomach was ruptured in 21, the small gut in 172, and the large in 26. In Curtis' 116 cases the small gut was ruptured 112 times. In Makins 21 cases the small gut was involved in 12. In Gage's 79 cases, where site was mentioned, it involved the duodenum in 10, the jejunum in 20, ileum in 42, and large gut in 6. In Sherk's 181 cases the site was not mentioned in 28. In 127 the small gut was injured, and the other 26 involved the large gut, duodenum, and mesentery. So in about 80% of the cases the injury is to the small gut. The most common location is the ileum, then come in order the jejunum, colon, duodenum, and stomach. The exception to this is Andrews' cases of pneumatic bursting where the lesion was in the colon in every case, the majority being in the sigmoid.

As to symptoms we first have those due to the rupture itself, and then those due to the effect of the rupture on the general peritoneum. The symptoms of the rupture are not those of peritonitis. There is no sign or symptom which is pathognomonic of intestinal rupture and in many cases no positive diagnosis can be made early except by opening the abdomen. Andrews says that when "the diagnosis is unmistakable the prognosis is also unmistakable." Johnson says "in a good many cases no certain diagnosis can be made for several hours." Richardson has said that all we need is a "reasonable certainty," for to wait for positive symptoms is to allow the only chance for a successful intervention to slip by. To me a "reasonable certainty" means a severe blow over the abdomen.

If I might be allowed to draw any conclusions from my small number of cases I would say that the following symptoms, in order mentioned, were the most important: pain, rigidity, tenderness and shock.

1. *Pain.* This was initial, constant, and progressive in every case. Each patient demanded two or more hypodermic injections of morphia in the twelve to fourteen hours before operation.

This symptom is important for it appeals most to the patient and calls attention to the fact that an injury may be present. It is first the pain of torn peritoneum and, if the contents escape, goes on to the pain of peritonitis. At first it is local, usually at the site of the injury. It may not last long and again the patient may be so shocked that he does not feel pain. Curtis in his 116 cases found it present in over 90%.

2. *Rigidity.* This was present in every case and the importance of this symptom lies in the fact that it occurs early and is not relieved by morphia, as is the case if the rigidity is due to trauma of the belly wall alone. By rigidity we do not mean the rigidity due to a sudden jab of the finger tips into the belly nor that due to cold hands. When the rigidity progresses and becomes general, the so-called "checker board" rigidity, it is the nearest approach we have to a pathognomonic sign.

3. *Tenderness.* This was present in every case, at first over the site of the injury, and later becoming more general.

4. *Shock.* This is usually placed as the most important symptom. It is said to have been present in two of my cases but quickly disappeared. In the third case, except for the primary subnormal temperature, there was no evidence of shock. A primary subnormal temperature was present in every case. The primary pulse in one case was 64, in another 84, and in the third 90. In the case seen early the pulse was full. The blood pressure was not taken in any case. In Gage's series of 85 cases shock was present in 36, less than half. Severe shock was present in none. Curtis found it present in 80% of his cases. The absence of shock is surely of little significance and its presence if profound may obscure more than aid in the diagnosis.

There are other symptoms which are worthy of consideration. In every case the patient was unable to urinate. I have also noticed this in cases of typhoid perforation. *Vomiting* is a symptom of some importance and is usually given a prominent place. This was entirely absent in two of the cases until after operation. In the other case the patient vomited at once, and again on his way to the hospital, but it was not repeated. Early vomiting can not be considered of great importance but if it persists it is indicative of a spreading peritonitis. The *respiratory rate* was increased slightly in each case and in two it was superficial

and thoracic in type. The *pulse* in each case gradually increased in frequency. In two the *expression* was that seen in a severe intra-abdominal lesion. The *liver dullness* was not absent in any case. I have however seen it absent in one case of abdominal contusion where there was no perforation. Sherk lays great stress on *diminished or absent peristalsis* and places more dependence on it than any other symptom. He says, "auscultation is as important an aid to diagnosis in abdominal diseases as it is in those of the chest." Gaub however has shown experimentally that peristalsis is obliterated very quickly after a blow over the abdomen even where there is no intestinal lesion. But he says it returns in a few hours if the injury is not serious. Leucocytosis is too late a sign to be of value.

To repeat, we feel convinced that every patient who has received a severe blow over the abdomen should be opened on suspicion and that we should never wait for symptoms which would lead to a positive diagnosis, for too often a positive diagnosis means a certain death. Richardson has said "every acute abdominal condition means promptness but following trauma it means greater promptness." The longer we wait the easier the diagnosis and the easier to decide on a method of treatment and for the same reason the longer we wait the more difficult the treatment and the more certain the prognosis. We believe every patient, after any blow over the abdomen, even if there is absolutely no sign or symptom pointing to an intestinal injury, should be kept under observation, in a hospital if possible, for at least 24 hours. Curtis reports two cases in which there was not a symptom for 20 and 24 hours respectively. Another case is reported where a man worked for 12 hours after the injury and died 36 hours later and at the autopsy there was found a ruptured intestine.

While the diagnosis is often uncertain this can not be said of the prognosis. It is no doubt safe to say that in cases of traumatic rupture of the intestine treated expectantly the mortality is practically 100%. Angerer reports 160 cases of intestinal injuries so treated, 150 died, and ten developed fecal fistulae.—these ten cases were no doubt contusions with late sloughing of the gut wall. Chavasse reports 36 cases so treated with 35 deaths. Was the other case an intestinal rupture or a mistaken diagnosis? Bryant reports 6 cases, all died. Curtis 116 cases, all died. In

Berry's 132 cases 48 were not operated on and all died. Gage reports 45 not operated on and all died.

What is the prognosis if treated surgically?

Douglas reports 45 cases so treated with 18 recoveries, a mortality of 60%. In Berry's series 84 were operated on with a mortality of 84%. In Hertle's series the mortality was 68.5%. In Petry's 4 cases the mortality was 65%. Summing up the above cases treated surgically we find the average mortality to be 70%.

How can this high mortality be reduced?

In Hertle's series the mortality in the cases operated on within the

First six hours was.....	48%
Second six hours	54%
Third to fourth six hours.....	79%
Fifth to sixth six hours.....	93%

In Petry's cases 18 were operated on within the first 24 hours with a mortality of 55.5%. Twenty-four were operated on after 24 hours with a mortality of 75%. In Sherk's series of 181 cases of intestinal injuries, not all ruptures, the mortality was as follows:

Operated on in first six hours.....	20%
Operated on in second six hours.....	35%
Operated on in third six hours.....	56%
Operated on after 18 hours	66%

Since Sherk reported his series of cases in 1910 I have been able, without a very extensive search, to find 11 cases. These were all treated by operation with a mortality of 82%. The average length of time from the injury to the operation was 32 hours. It seems to be a rare exception to find a case operated on within a few hours after the injury but Andrews reports three cases which were operated on from two and one-half to eight hours after the injury and all recovered. In his report of these cases Andrew says, "could the operation be done in a few minutes instead of a few hours, could we dive into the work instantly, as we would for a bleeding artery, I believe that practically every case would recover."

If then the mortality following the non-operative treatment of intestinal rupture has been 100%, and that following operative treatment has been 70%, and we can assume it to be still higher for it is usually only the successful cases which are reported, and if as Andrews says, practically

all cases should recover if operation is done early enough, and this statement is no doubt true in uncomplicated cases, then improper treatment is responsible for a very large number of deaths following intestinal rupture due to trauma.

Treatment is always surgical from the very moment that the injury is received, for if in doubt the abdomen should be opened on suspicion and there should be no "waiting for reaction." If there should be any necessary delay before operation the patient should be placed in Fowler's position and no salt solution should be given per rectum as it favors fecal extravasation. It seems unnecessary to add that no cathartics or enemata should be given but I have known of cases where both were given. I believe that ether is the anesthetic of choice as it improves for a short time the condition of the patient should shock be present. There should be no time wasted during the operation. The best incision is in the middle line below the umbilicus, large enough for thorough exploration. Tail sponges, unless absolutely necessary, should not be used as they interfere with exploration. If the operation is done early there is not much tendency for the intestines to protrude through the wound. As about 80% of ruptures are in the small gut it is best to explore this first, starting at the entrance of the ileum into the cecum and working upwards. Never drop the gut when once found or it may be necessary to start all over again and when one rupture is found and repaired remember that multiple ruptures are not uncommon. To close the perforation use any stitch that will do the work without occluding the lumen of the gut too much. Whenever possible, and if it can be done without kinking the gut, cover your line of sutures with a piece of omentum, a nasty looking piece of gut will often live if well covered with omentum. If there is a crushing or tearing of the gut resection will be necessary with an end to end or lateral anastomosis. It is far better to bring both ends of the gut out through the abdominal wall, doing an enterostomy, than to run the risk of killing the patient by a too long operation.

As to the value of irrigation of the peritoneal cavity there is a difference of opinion but one thing is certain, if irrigation is used it must be used copiously, using from 35 to 50 litres of salt solution, or until the return flow is perfectly clear.

Andrews uses a three point irrigator and starts his irrigation with normal salt solution at 105° to 110° F., as soon as the belly is opened. He inserts one tip of the irrigator into the pelvis, one below the liver on the right side, and the third below the spleen. He keeps this going until the operation is over and the fluid returns clear. I have never irrigated the abdominal cavity but can readily see the advantage of doing so in cases where there are coarse foreign bodies as feces or particles of food present. Often, however, this can be carefully and gently wiped away with a wet sponge. We must be careful not to wipe away the exudative deposits for these are protective and if wiped or washed away will allow the inflamed surfaces to absorb more rapidly. It is rarely that drainage can be dispensed with. A good drain is a large split rubber tube, filled with gauze, and placed to the very bottom of the pelvis. This is all that is ordinarily necessary though at times it might be well to place a drain at the site of the injured gut and through a stab wound to the right of the mesentery of the small gut, towards the liver. After the operation the patient should be placed in Fowler's position and given continuous salt solution per rectum. There should be no cathartics or high pressure enemata given for several days at least.

Report of Cases.

Case 1. Rupture by percussion, H. S. Age 33; large, muscular man weighing about 185 pounds; on Oct. 15, 1910, at 5:30 p. m. an emery wheel broke, a piece striking him over the abdomen just to the left of and below the umbilicus. He at once fell to the ground and vomited. He was given 1/4 grain of morphia before being placed in an ambulance. I first saw at 7 p. m., a hour and one-half after the accident. The only external evidence of injury was a small hyperemic area about the size of a dollar just below and to the left of the umbilicus. His expression was not at all suggestive of an intra-abdominal lesion. He had vomited again on his way to the hospital. There was no nausea. Temperature was 97.4°, pulse 90, respiration 22. There was an exceedingly marked rigidity of all the belly muscles, the most marked I had ever felt. He complained of pain over the entire abdomen and especially complained of pain under the left scapula. The entire abdomen was tender on pressure. The liver dullness was present. He was unable to void and nine ounces of clear urine was withdrawn by catheter. He said his bowels had not moved for two days before the accident. The possibility of an intestinal rupture

was put up to him but an operation was not insisted on as it should have been. He was placed in bed in Fowler's position. At 11 p. m. his pulse was 102 and temperature normal. He was given another 1/4 of morphia during the night for pain. The next morning his temperature was 100°, pulse 97. He had not vomited during the night, the liver dullness was present, he still had general abdominal pain, exceedingly rigid muscles, and great tenderness. Was unable to void and again catheterized. A consultant was called in who said he did not think there was any intestinal injury. Never-the-less the patient readily consented to an exploration and was taken to the operating room 14 hours after the injury. Mid-line incision, abdominal cavity contained a large amount of liquid feces mixed with grape seeds, and other particles of food. The intestines were covered with exudate and in several places the serous covering seemed eroded. About six feet from the ileo-cecal junction there was found a hole in the ileum large enough to admit the index finger. This perforation was directly opposite the mesenteric attachment, there was no evidence of any other trauma to the gut or mesentery, the mucous membrane was everted and protruding through the opening, the serous membrane being torn to a greater extent than the mucous membrane, all going to show that the force had been from within the gut, a rupture by percussion. The gut was larger in the region of the rupture than above or below. The perforation was purse-stringed, the peritoneum was gently cleaned with moist sponges, and a split rubber tube with gauze was inserted into the pelvis through the mid incision and another through a stab wound. Patient was put to bed in Fowler's position and continuous salt solution per rectum given. One week after operation the temperature was normal, pulse 88, and all drains had been removed. Bowels moving well and belly soft and flat. Recovery seemed certain. On the tenth day he had a chill with sudden pain in the chest, temperature went up to 102.8°, respiratory rate increased, and he developed a cough. On the 13th day a lung abscess ruptured into a large bronchus and he quickly died.

Case 2. Rupture by compression. F. S., age 43, large man, injured Jan. 24, 1912 at 9 a. m., by being caught between a stationary and a moving body. Says he felt something crack when squeezed. Primary temperature 97°. Pulse 70. Respiration 20. Complained of great pain over the bladder and in the lower dorsal region of back. Was at once given 1/4 grain morphia, in two hours was given an eighth, and three hours later was given another fourth. Did not vomit nor was he nauseated. Five hours after injury his temperature was 98.2° by axilla, pulse 64, and respiration 30. Unable to void and eight ounces of clear urine withdrawn by catheter. I first saw him about 14 hours after the accident. Temperature was 100° by

axilla, pulse 86, and respiration 28. Liver dullness present. Pain had progressed and was now general over the entire abdomen. The abdomen was very rigid and tender to pressure. There was a marked ecchymosis involving the right abdominal wall and extending backwards to the vertebrae. There was a large hematoma of the right rectus muscle. The spinous processes of the lower dorsal vertebrae were fractured. No paralysis. His expression was anxious and worried in the extreme. Diagnosis of intestinal rupture made and operation done at once. Incision through right rectus. Considerable blood mixed with feces escaped at once. About eight inches from its entrance into the cecum the ileum was found to be completely severed. The mesentery also had been severed resulting in a gangrene of over six feet of the small gut. In addition there was considerable trauma to the soft structures of the posterior abdominal wall. The aorta had been torn loose so as to easily admit the whole hand between it and the vertebral column. The blood and feces, which gave a very sticky mixture, were wiped away with moist sponges. Over six feet of small gut was removed and the ends were brought out of the abdominal wall and anchored. Rubber tubes were placed in the lumen of the gut and the pelvis well drained. Death on third day following operation. This surely was an unfavorable case from the very beginning and no doubt could not have been saved by an early operation.

Case 3. Rupture by compression. F. B., age 26, injured June 18, 1913. While watching a draw bridge close he slipped and was caught in the bridge, the force being applied over the left iliac region. Taken at once to Emergency Hospital. On entrance he showed signs of shock. Temperature was subnormal, pulse 84, respiration 24. He had not vomited and was not nauseated. Complained of severe pain in left lower abdomen, and this region was very tender on pressure. Was at once given 1/4 grain morphia. Unable to void and clear urine withdrawn by catheter. Five hours after accident his temperature was 97.6°, pulse 98, respiration 26. Eight hours after injury his temperature was 100.8°, pulse 110, respiration 30. A gradual increase in pulse and respiration. During the night he was given another fourth of morphia. I first saw him the next morning, about 13 hours after the accident. There was an ecchymosis involving the left iliac region. He had not vomited during the night and was not nauseated. Complained of great abdominal pain and tenderness. Marked rigidity of all belly muscles. Liver dullness present. Diagnosis of intestinal rupture made and operated on at once. Incision through mid line. Blood and solid feces in abdominal cavity. The sigmoid together with its mesentery was found completely crushed. The entire sigmoid together with part of the ascending colon was removed. The cecum being fixed I was

unable to use it for anastomosis. Not wishing to anastomose the small intestine to the rectum I used the transverse colon which was very low in the pelvis. This anastomosis was done with considerable difficulty. The peritoneum was cleaned with moist sponges. Pelvis drained with split rubber tube. After a rather stormy convalescence the patient recovered. There was no leakage at the site of the intestinal suture or anastomosis.

Case 4. Rupture by percussion. This case came under the care of my associate, Dr. H. A. Sifton, and is cited to show what can be expected after an early diagnosis and early operative treatment. J. G., age 12, injured June 7, 1913, by being thrown from a horse, the horse stepping on his abdomen. Seen ten minutes after the accident. Only external mark of injury was a slight redness to the left and below the umbilicus. Complained of great abdominal pain. Belly muscles were rigid. Tender on pressure. No vomiting. No nausea. Liver dullness present. Temperature not taken. Pulse 90. Operated on within 20 minutes from time of accident. Incision through mid line. Very slight amount of blood in abdominal cavity, so slight that it could easily have been overlooked. No bowel contents free in abdomen. A rupture of jejunum was found about eight inches from the duodenum. The rupture was about the size of a five cent piece and was opposite the mesenteric attachment. A drain was placed in the pelvis but there was no drainage. Boy left the hospital recovered in less than two weeks.

THE PHYSICIAN AND THE COMPENSATION LAW.*

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The field is comparatively new and few men, I take it, would claim to have any very extensive knowledge of or any definite opinions on many of the questions that are of present and increasing interest not only to the physician, but also to the liability man and officials who are charged with the administration of the Workmen's Compensation Laws.

Now that the highest courts in the land have sustained the principles involved in the newer legislation, creating Workmen's Compensation Acts, there is no longer any doubt that such legislation has come to stay and from now on must be reckoned with as the very essential of our system of dealing with industrial accidents and industrial diseases. Such legislation without question

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means a juster, wiser, and happier distribution of the hazard of industrial employment, and at the same time a marked economic saving to employers, employees, and the cost of administration of justice. The attitude, therefore, of progressive and public spirited citizens should be one of encouragement and helpfulness toward the legislation. The physician, in particular, should seek to acquaint himself thoroughly with the provisions of the law in his own state and be ready at all times, not only to do that which is necessary for the injured employee, but also to render such aid as he may be called upon to give to the Compensation Board and to the courts.

The medical records of all cases should be as complete and satisfactory as it is possible to make them. Nothing could be of greater importance than a clear, correct, explicit report from a medical examiner in the most untechnical language possible. Where doubt exists the benefit should be given to the injured man since such reports are subject to review. A medical opinion is not always expected to be exact as a legal opinion is. The results of a given injury vary widely in different persons, the personal equation is always present, and whether the law takes notice of it or not, medical science must do so.

The problem of the greater welfare of employees is one of increasing interest to the employers, large and small. The development of pension systems for employees is absorbing the attention of both the employer and employee and will doubtless grow with the passing of months and years, and all these matters will effect and interest the physician, not only from his standpoint as a medical man alone, but also from the standpoint of his own pecuniary interests. With the development of Workmen's Compensation, pension systems and preventive medicine, as it is applied to the prevention of accidents and the lessening of industrial diseases, will come an increasing interest for the physician and an increasing demand for his services as a surgeon, as a trained sanitary expert, as medical referee, and as an advisor and expert witness in cases before compensation boards and courts. As a consequence of this extension of welfare, economic, sanitary and professional work, the physician will, therefore, do well to keep closely in touch with the situation so as to be able to render the service that will be demanded of him in the most efficient manner.

The physician should seek to know the conditions under which men and women work in his community. He should, where possible, visit and study the various industrial plants in a community, be ready to suggest various necessary improvements in hygienic conditions, understand the application and use of safety devices and know at first hand how accidents are likely to occur, and the means which should be adopted to prevent them. Experience gained in this way will give a man the right to speak, not only of the causes of these accidents, but in many instances, more particularly and definitely of the probable effects. With the compensation laws in force, there is no doubt that the assistance and co-operation of employers may readily be had. Employers, from my limited observation, are much more interested in the prevention of accident and industrial disease than are employees as a class. From time immemorial, the physician has been looked upon and has been, in fact, the teacher of the public in the prevention of disease, and the duty is still upon him so far as possible to enlighten both employer and employee in the prevention of industrial accident and disease and in the proper care of those who are injured or become sick at their labor. The surgeon called upon in an injury to a workman has frequently to deal with medico-legal questions and his opinion concerning the prognosis will be sought quite as often as his views on treatment. On the one hand, it is frequently to the interest of the employer to minimize the seriousness of an accident; on the other, it is just as frequently the object of the employed to exaggerate the conditions of his injury. It is, of course, the duty of the surgeon, to look at the case from a judicial as well as a medical point of view. Without undue consideration of the interests of the side which called him, it is his duty, in these instances to be a witness for the truth according to his convictions, rather than for the plaintiff or for the defendant, and while it is only human for the average man to be perhaps unconsciously biased in favor of an unfortunate injured workman or to feel indignation against the man whom one believes to be a malingere, or to develop a certain attitude of partisanship against the corporation which is apparently seeking to avoid its responsibility, it must be borne in mind that the legal rights of individuals are to be safeguarded by the law and that the medical questions are the matters of primary concern to the

physician. Questions of prognosis, while the effects of the accident continue, are often difficult to answer and no absolute opinion concerning final result can be given in many instances. Just here, there is wide scope for honest differences of opinion.

Where such differences exist, between medical men, the reasons for this disagreement should be stated in language easily understood by laymen. In all injuries likely to become compensation cases, it will, of course, be necessary to make such an examination as will reveal the facts of the injury itself as well as any pre-existing injury or defect that might become of importance in the adjustment of the matter. Many a claimant for damages has been the beneficiary, so to speak, of such pre-existing defects by reason of the fact that sufficient notice of the same has not been taken at the time of the examination and treatment of the injury, and this brings up the question of the coming necessity for physical examination of men entering employment anywhere. There is no doubt that in the future liability insurance and workmen's compensation acts will be administered under a system which contemplates the examination of most men entering employment, with reference to their physical fitness for the work they are expected to do; and here again the medical man will come into contact with the situation in a relation of great importance to himself, not only from the standpoint of his fitness for the relationship, but also from the standpoint of his financial interests as well. It is probable that the time will come when no ease will be insured against accident without a medical certificate of fitness being obtained. This will mean a readjustment of economic conditions of great importance and doubtless will involve certain hardships in individual instances, but it would also lessen the burden of cost to industry and on the whole bring about a more equitable condition of affairs than now exists.

One of the common experiences of the physician in dealing with injury cases where there is a possible claim for damages, is that apparently honest people are prone to magnify the most trifling injuries and in the interest of themselves it becomes the duty of the physician, where it can be done, to assure them in the most positive way that they have nothing to fear in the way of incapacity in the future from such injuries, and again there is

the man who has been severely injured and has every right to generous compensation but who grossly exaggerates every symptom connected with the injury and who does so, not so much upon the basis of dishonesty, but for the reason that he "does not know," and therefore his reason and imagination give way to unfounded fear of consequences that are in fact not to ensue. The attorney or the claim agent for the injured or perhaps some member of the claimant's family wield more than a sufficient influence in the direction of exaggeration of the possibilities, and it becomes the duty of the physician, no matter which side of the case employs him, to set the patient right in respect to these things. The most difficult case to deal with, of course, is the malingerer and I often think that the unconscious malingerer is more difficult than the conscious rogue. The scope of this paper does not contemplate going into details in respect to the detection of malingering, but it may not be out of place to say that tact, sympathy, and at times firmness on the part of the physician will clear up the situation in many instances, and put the case on the way to a reasonable adjustment so far as the medical questions involved are concerned. In the examination of cases where malingering is suspected it is clearly the duty of the physician to avoid hasty conclusions and refuse to be hurried by either side in the examination of the case or in the make-up of his final judgment. It is always unwise to make a positive accusation of malingering unless one is prepared with the strongest kind of proof. Such an accusation if not well founded, or if made against a claimant who unconsciously indulges in exaggeration, is sure to lead to an embarrassing lack of confidence between the claimant and the physician and render the physician's services in that particular case of far less value than they otherwise might be. The physician should in every instance decline to place himself in the attitude of a detective or claim agent no matter which side of the controversy asks for his service. Medical methods are all sufficient to reveal the medical facts in any case. It is altogether likely that in the development of the administration of these laws it will become necessary to pursue the method of dealing with suspected malingerers which is followed in Germany, where they are required in selected instances, to enter a hospital for observation.

The question of when an injured man is fit to resume work becomes important in many cases and the judgment of the physician is called for; this gives rise to controversy and much honest difference of opinion. If it involved only the physical fact of the ability of the person to do a certain thing or to perform the physical functions necessary to the doing of it, it would not be so difficult to decide in many instances. But when we consider that the man has been injured, has been subjected to the excitement and worry of it all, has made a claim for damages, has been surrounded by the claim agent, the lawyers for both sides, has listened to the contentions involved, the suspense involved in litigation, the numerous medical examinations, and been subjected to the many other things that conspire against his returning to work, it is not at all surprising that the impression made upon the claimant, especially if he be one of neurotic temperament, should materially modify his sense of proportion, lead to mental worry and disturbance and to an altogether exaggerated view of the seriousness of his injury, and at the same time cause him to suffer from a genuine depression of the nervous system, which would reasonably prevent his return to work even though he had fully recovered from the strictly physical effects of the injury itself.

Doctors are frequently charged, and often rightly so, with unnecessary indulgence in technical language. When a man thinks in technical terms for a long period of years, it is often difficult for him to drop the habit and come down to the ordinary language, understood by the average layman, but this the medical man should seek to do where it is at all possible to present the facts in such language. We need not, in fact we must not, bother about the legal technicalities of a case or assume a knowledge of the law which we do not possess. Every medical man knows the absurdity often revealed by laymen, lawyers and the press in their judgments and opinions of medical matters, and the doctor is apt to be no less absurd in assuming a knowledge of the technicalities of the law. To summarize briefly, I believe first that it is the duty of the medical man to know the objects and aims of liability insurance and workmen's compensation, to be familiar with the provisions of the act, to know to whom it is applied, the conditions under which the application was made, the liability for compensation, who is

an employer under the act, what is meant by an employee under the law, what is an accident in the meaning of the law, the scale of compensation, the provision for medical attendance of injured cases, the judgment of the compensation board with reference to what constitutes total or partial disability, and the benefits provided by the act, particularly the provision for medical examinations and the employment of medical men as referees. To go into these numerous details would be to unduly prolong this paper and would mean nothing more than quotations from the act itself. This information is all set forth in the publications of the compensation board which may be had for the asking and I can do no better than to again suggest the advisability of every physician placing himself in touch with the necessary information to enable him to discharge his functions as a medical man and as a citizen, so far as this new legislation is concerned.

A CONSIDERATION OF THE REGULATIONS GOVERNING NURSES IN WISCONSIN.

BY M. IVERSEN, A. M., M. D.,
STOUGHTON, WIS.

The Committee on Nursing has now been active for two years. The members of the committee have labored faithfully for the attainment of a higher standard for nurses which would prove beneficial to all concerned, by being in accord with the high ideals of nurses on the one hand and advantageous in every way to the patients, the hospitals, the medical profession at large and to the State. The results have not been entirely satisfactory. The zeal for the establishment of a higher standard has over-ruled, to a great extent, a proper consideration of existing conditions. The best interests of the patients, the hospitals and the State have received only secondary consideration. The committee failed to ascertain the amount of time at the disposal of the hospitals in which nurses may receive theoretical instruction. After deducting the time required for all practical instruction, necessary work, recreation, vacations, etc. the time at disposal for theoretical study may be estimated at about three hundred hours per year for a three-years' course, the time varying very little in the different hospitals.

A course of about two thousand pages may be

thoroughly covered in this time, but it is impossible to assimilate the course of four thousand pages demanded by the Nursing Committee of the State of Wisconsin, without including the Nutting & Dock "History" in four volumes, containing 1,546 pages, which is of no special value to nurses, nor does the Wisconsin law require an examination in history of any kind. A copy or two placed in the library of every hospital, among other works of reference, would be quite sufficient. Since it has been imposed, however, it obligates every nurse to an expenditure of nine dollars per set, and when we consider for a moment the number of nurses in the State we may readily calculate a sum total as enormous as it is unjustifiable. What conclusion is one likely to form from this? The increase in the size and number of the books for nurses and the enlargement of the entire course is progressing at an alarming rate. It would have been better to have arranged a less elaborate course and to have insisted that it be enforced rather than to impose one which can not be learned in the time available without jeopardizing the health of the nurses.

The hospitals, which are already overburdened, will be compelled to employ a much larger force of pupil nurses than before so that some may be available for work while the others study. By thus increasing the cost it proves a serious handicap for the patients. Even now when hospital nurses learn of the extent of the course they are manifesting a tendency to decline positions, and many hospitals which had a waiting list formerly are compelled to advertise for student nurses and they find it to be a difficult matter to fill the vacancies.

One of the most important features of the laws governing the registration of nurses is the necessity of registration so that the State may control and educate them. The Committee on Nursing, however, has reared a pedestal for its own occupancy alone and declares that all those beneath this sacred circle do not require registration, notwithstanding the fact that nine-tenths of all the nursing is being done by untrained nurses, and we have as a result a beautiful example of frustration of the law by the wonderful manner in which it is applied.

The first step taken by the Committee was to exclude from registration a large proportion of graduate nurses through discrimination among

hospitals. A great many hospitals were disqualified.

The inauguration of a written examination prevented the registration of a large proportion of practical nurses who were thus automatically removed from the files of the Board of Health of the State of Wisconsin, which, as the result of this action, is not aware of the present address of this large number of nurses, hence is unable to supply them with circulars or bulletins for instruction nor can it demand statistical returns or reports. Moreover, the registration of new-born infants is not carried out, not mentioning the dereliction in the treatment of ophthalmia neonatorum. The State should demand registration of every nurse engaged in active practice as a R. G. N. (registered graduate nurse) or a R. P. N. (registered practical nurse). If this is not possible under the existing laws, the latter should be amended at once. Beginning with September 1st, 1914, every new nurse, practical or graduate should be examined before being permitted to register, so that the standard could be raised all along the line and the State be given general supervision. If the present Committee on Nursing is allowed to continue as it has been doing for the past two years it will take at least twenty-five years to effect this, or at least not until the old guard has died out. To designate every nurse who registers merely R. N. is a gross injustice to the public which wants to know, and is entitled to know, whether it is paying for a graduate or a non-graduate practical nurse. It is similar in a way to a violation of the pure food laws.

One factor stands out clearly: The hospitals must organize and elect a committee, selecting one member to represent the large hospitals, one the medium-sized hospitals and one the smaller hospitals; said committee to offer recommendations to the Committee on Nursing which will redound to the best interests of the patients, the hospitals, and the medical profession. The committee should also serve as an advisory adjunct for purposes of legislation, by proposing such laws or amendments as it may see fit to present. The following amendments require and should receive immediate consideration:

1. Registered nurses should be compelled to specify whether they are registered practical nurses (R. P. N.) or registered graduate nurses (R. G. N.).

2. Every hospital should be considered a reputable institution as regards nursing if it is conducted legitimately along ethical lines, has a normal mortality rate, and graduates only as many nurses as it actually needs to carry out its work, regardless of the size of the hospital.

3. The nurses from such hospitals should be admitted to registration as registered graduate nurses (R. G. N.), and after September 1st, 1914, should be admitted to examination without discrimination.

4. All nurses desiring to continue their vocation should register before September 1st, 1914, either as practical or graduate nurses: after September 1st, 1914, all nurses should be required to take the examination or be barred from active service.

5. The Committee on Nursing should have among its members at least one representative to look out for the interests of the small hospitals.

It may not be improper to suggest that the hospital physicians renew the discussion of this matter at the next State Medical meeting, and a few general remarks on the nursing problems and their solution would be timely.

The great demand at the present time is for nurses who can minister to the wants of those whom we choose to call the *middle class*. The rich and the poor have been provided for. It is, therefore, "not university training we seek, it is simply women with a good average degree of preliminary attainments" (Beard). A high school diploma and even less will suffice. "Any training school will succeed and find its place in the community as long as it is careful in selecting pupils with good disposition and kindly manners and trains them so that their good points are cultivated and improved" (Howard). It is not practical to make the preliminary education of trained nurses a part of the university studies or other theoretical schools as we must first ascertain the fitness of the candidate nurse. This can be done only during the period of probation, when the less desirable or unfit are weeded out, and those weeded out would have spent their time at the university in vain nor could they follow the instruction in the recitation room intelligently. After completing a course of training extending over three years those few who have then attained a very high standing (85%) might then be admitted to the university for special study in the departments of domestic

science and medicine which would lead to the degree of Special Nurse (S. R. N.). All nurses thus qualified would be in line for special work such as teachers, superintendents, health and office nurses, etc., for which there is a great demand, but for which we have not yet made any educational provisions. The smaller and the special hospitals should undertake the period of probation and the first year's instruction, including thirty hours of domestic science which should admit them to examination for the degree of practical nurse (P. R. N.). This degree should permit them to enter for further study in the same hospital, if it is a general hospital, otherwise in a general hospital, preferably a larger one, which should receive and credit the matriculant with equivalents in time and service. This would tend to procure the necessary pupil nurses to fill the vacancies at the larger hospitals, a difficulty which now causes hysterical attacks on the smaller hospitals as these are supposedly robbing the large institutions of both clinical material and pupil nurses. After acquiring a full three years' training in this way the nurses should be required to take the State examination for the degree of graduated nurse (G. N.), and register as graduated registered nurse (G. R. N.) if the examination is passed successfully. After this the above-mentioned university course for special nurses should be taken. Tuition should be charged for the university course, but at the hospital the work done for the patient should be tuition sufficient. The pupil nurse should buy her own books so that she may take them with her as a guide in practical life.

It is impractical to attempt to standardize hospitals and training schools according to their size as efficiency is not dependent on size, but on the individual service and the personal equation, nor does a large number of patients give the nurse a wider education, as the work must necessarily be divided out *pro rata* and thus in any hospital each nurse will get about the same amount of experience. Moreover, on account of the lesser number of nurses in the smaller hospitals these nurses may be given more personal attention and their personal deficiencies corrected, so that very often the most efficient nurse comes from a small hospital. It is a duty of the nursing committee to advise and assist the small hospitals and training schools as they are both needed in the community. Laws that would tend to close them would probably

nullify all the nursing laws as many of those hospitals and schools are incorporated and any law that interferes with existing legal conditions is unconstitutional. The time has come, however, when every community of three thousand inhabitants will ask for a hospital, and such a hospital will need pupil nurses.

The time when only a few big men did all the surgery has passed. In every corner of the State are men fully competent to do a large proportion of this work if they have access to a sterilizer, a clean operating room, a nurse and an assistant. We must also reckon with a habit that the public is rapidly acquiring, namely, to go to a hospital for confinement and accidents.

In conclusion it might be said that the laws for nurses have been made by nurses for the benefit of the nurses and copied from State to State, not for the benefit of the public, the hospitals and physicians that are to apply them, nor for the benefit of the State which is asked to protect them. Instead of being leaders, as we should have been, we are being lead and we know not whither. It would be well to have the opinions of others, and if there is a demand for the above amendments they can be made now, and a complete university course for special nurses may be arranged for in due time, that is, three years from now.

TUBERCULOSIS COLUMN

Under the auspices of the Committee on Prevention of Tuberculosis of the State Medical Society of Wisconsin; M. P. Ravenel, Madison; G. E. Seaman, Milwaukee; C. A. Harper, Madison; J. M. Beffel, Milwaukee; T. H. Hay, Stevens Point.

TWO STORIES AND A MORAL BY C. H. CHEADLE, M. D.

A young lady went to her physician on the solicitation of her friends. She had a slight though persistent cough. She was jolly and made light of the anxiety of her friends. Her health had always been good. None of her relatives ever had tuberculosis. The doctor, a "good friend," thought, "what's the use to ask a young lady to strip her chest for an examination which will probably result in no good." Consumption of too much time and a reluctance to embarrass a sensitive young lady induced the doctor to make a superficial examination. Of course the result was negative. She was told she was all right. No need to worry. Take good care of herself and she would be all right.

But the cough persisted. A short time later this patient spit blood. She again consulted the physician.

He made a more careful examination but could find no physical evidence of the suspected disease. He assumed that the blood came from the nose. He prescribed a tonic and assured her she need not worry.

Doubly assured this young lady became sure there was nothing seriously wrong with her. The cough almost disappeared at times. She was busy and largely forgot about herself. A year later her weight was fifteen to eighteen pounds below standard. Her strength was also not up to standard. Cough was no worse. Again she presented herself at the doctor's office. The doctor at a glance saw the mistake he had made a year ago. He examined her chest. A novice could tell now that grave trouble was present. She is not so hopeful now. Her spirits run low. She must not be discouraged by a revelation of the truth. So the doctor gives her a bottle of tonic, tells her she is overworked and run down and must rest and eat nourishing food and build up.

A month later a severe hemorrhage calls the doctor in haste to the patient's bedside. Anxiety is written on the countenances of the relatives present. But in private the doctor did his best to patch up some kind of a truce which aroused relatives. But the truth was evident to the family and the doctor could offer no excuse for his negligence. Another physician wrote the death certificate a few months later.

Another young lady with a slight though persistent cough went to her physician on the solicitation of friends. She had always been well and there were no relatives who had had tuberculosis. She, too, made light of the anxiety of her friends. Her physician asked her many questions. He insisted on a careful and complete examination. He could find no physical evidence of lung disease. He told his patient he could find no trouble but he did not like the cough. He insisted that another examination be made. A specimen of sputum showed no bacilli. A second examination was made a few days later. It still was negative in the finding of any definite trouble. But the doctor gave her careful instruction about fresh air, diet, separate table utensils etc., and insisted that her condition called for careful watching.

A week later a slight hemorrhage called the doctor to the bedside of his patient. The amount of blood lost was very slight. But the doctor was kind enough to tell his patient the truth, viz., that she had tuberculosis. He explained that a pulmonary hemorrhage from a person in apparently good health *always* means tuberculosis.

This young lady was sent to a Sanatorium from which a year later she returned home apparently well.

The narration of these two cases is true to life. They happen very often. Do you think there is any less reason to condemn the course of the physician in the first case than that of Capt Smith who ran the Titanic to her doom at the rate of twenty-two knots an hour? Did it pay in dollars? Did it pay in satisfaction in work well done? Can anyone look at it from any angle and say that that doctor was any better off in the end than if he had taken the course of the last physician? Trying to look at this problem, for it is a problem and

a serious one too, I fail to find any excuse whatever for carelessness or dishonesty in dealing with a case presenting any of the symptoms of tuberculosis.

It will be noted that the physician in the second case *did not* make a diagnosis until a hemorrhage occurred. He examined carefully for physical signs and found none. This may have been due to the fact that he was not an expert in lung diagnosis. But this fact did not interfere with pursuing a safe course. Had conditions warranted he could have sent his patient to an expert in chest diagnosis. But even then the same cautious course would have been justifiable.

I recently knew of a case of a man who had repeated pulmonary hemorrhages, yet his physician persisted in saying he did not have tuberculosis. Listen to Nothnagel; "All in all, one does not err in considering actual pulmonary hemorrhages to be of tubercular origin." Even if pulmonary hemorrhage had not occurred in the course of the second case the doctor took the right course to put his patient and her family on safe grounds. In the end he had two valuable things which the first physician did not have: First, a consciousness of duty well done, and second, a family who believed implicitly in his honesty and ability and who will not fail to say kindly things of him to others.

If a physician cannot make a positive diagnosis of tuberculosis he has absolutely no moral right to make a negative one. That is something which *no one* can do positively without repeated and painstaking examinations and tests. Even then there is a question. Careful tests have shown that 90% of school children, twelve years of age or older are infected with tuberculosis. Some of the highest authorities say that in thickly settled communities *all persons* become infected by the time they are twenty years of age. If an individual has a focus of infection the size of a millet seed he cannot be said to be free from tuberculosis. He has within him all that is necessary under favorable conditions to lead to his death. But it is manifestly impossible for anyone to make a diagnosis in such a case, either positive or negative.

Justice demands that physicians be both painstaking and honest. Those who are leading the fight against tuberculosis need the help of all physicians in the fight.

BOOK REVIEWS

THE PRACTITIONER'S VISITING LIST for 1914. A valuable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid, to any address, \$1.25. Thumb-letter index, 25 cents extra. Lea & Febiger, publishers, Philadelphia and New York.

Being in its thirtieth year of issue, THE PRACTITION-

ERS' VISITING LIST embodies the results of long experience and study devoted to its development and perfection.

It is issued in four styles to meet the requirements of every practitioner: "Weekly," dated for 30 patients; "Monthly," undated for 120 patients per month; "Perpetual," undated, for 30 patients weekly per year, and "60 Patients," undated, for 60 patients weekly per year.

The text portion of THE PRACTITIONERS' VISITING LIST for 1914 has been thoroughly revised and brought up to date. It contains, among other valuable information, a scheme of dentition; tables of weights and measures and comparative scales; instructions for examining the urine; diagnostic table of eruptive fevers; incompatibles, poisons and antidotes; directions for effecting artificial respiration; extensive table of doses; an alphabetical table of diseases and their remedies, and directions for ligation of arteries. The record portion contains ruled blanks of various kinds, adapted for noting all details of practice and professional business.

THE MEDICAL AND SANITARY INSPECTION OF SCHOOLS. By S. W. Newmayer, A. B., M. D., in charge of the Division of Child Hygiene, Bureau of Health, Philadelphia. 12mo, 318 pages, with 71 engravings, and 14 full page plate. Cloth, \$2.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

Public health work is no longer limited to the physician and the health officer, but is of great importance to every intelligent person. The sanitation of the school and the health of the pupils, with its widespread application, is acknowledged to be the most important phase of the public health problems of today. The volume by Dr. Newmayer is an authoritative work covering the subject in a clear, brief and practical manner. In this book the health officer can obtain detailed and concise information on efficient organization and administration of school inspection: the physician employed in or contemplating such work will find instructions in methods of diagnosis adapted to school examinations, which differ vastly from college teaching or private practice. The methods which bring the best results, both in the prevention of epidemics, and in the correction of physical defects, are given in detail. Civil service examination questions are appended for those desiring to prepare for competitive examinations.

The nurse and her relations to the work, to the physician, the teacher and the home are given in full. Chapters are devoted to inspections when physicians are not available.

For the teacher and other school authorities there have been included methods of co-operation and such valuable data as, how to teach the fundamental laws of health; definite and accurate information on the relation of mentality to physical conditions; new and common-sense views on the non-promoted, backward and mentally deficient child.

The sanitation of the school building and grounds is given full consideration, and a simple and very practical method of recording all information for the benefit of the child and the school is included. Instead of the citation of many examples, a complete system of records

is presented. A large subject has been adequately covered in one small volume. The illustrations are not only numerous, but have been chosen to aid the reader.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements, in the Medical and Surgical Sciences, edited by Hobart Amory Hare, M. D., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College, Philadelphia; Physician to the Jefferson Medical College Hospital, one time Clinical Professor of Diseases of Children in the University of Pennsylvania; member of the Association of American Physicians, etc., assisted by Leighton F. Appleman, M. D., Instructor in Therapeutics, Jefferson Medical College, Philadelphia; Ophthalmologist to the Frederick Douglas Memorial Hospital; Instructor in Ophthalmology, Philadelphia Polyclinic Hospital and College for Graduates in Medicine. \$6 per annum. Lea & Febiger, Philadelphia and New York.

Volume IV., December, 1913. Diseases of the Digestive Tract and Allied Organs, The Liver, Pancreas, and Peritoneum, by Edward H. Goodman, M. D., Diseases of the Kidneys, by John Rose Bradford, M. D., F. R. C. P., F. R. S., Genito-Urinary Diseases, by Charles W. Bonney, M. D., Surgery of the Extremities, Shock, Anesthesia, Infections, Fractures and Dislocations, and Tumors, by Joseph C. Bloodgood, M. D., Practical Therapeutic Referendum, by H. R. M. Landis, M. D.

THE PRINCIPLES AND PRACTICE OF MEDICAL HYDROLOGY. Being the Science of Treatment by Waters and Baths, by R. Fortescue Fox, M. D., (Lond.); F. R. Met. Soc., Late Hyde Lecturer of Hydrology, Royal Society of Medicine. Price \$2.00. 291 pp. Oxford University Press, American Branch, 35 West 32nd Street, New York.

To the reviewer this book seems to be a conservative and thoroughly sound presentation of a very important but greatly misunderstood subject. In this country, unfortunately, the situation with regard to Hydrology is quite the reverse of that in France, of which Dr. Fox says: "A lay literature and extravagant and hostile claims have not darkened counsel by words without knowledge. In France, therefore, it has happily come to pass that medical practice and research in hydrotherapy have, in the words of Winternitz, followed a 'placid and unembarrassed way'. This practice has, therefore, to a much greater extent than in England, taken its place as a recognized branch of therapeutics, especially in chronic and nervous affections."

The scope of the work is indicated by the following outline of the contents:

The Functions of the Skin, Bodily Heat, the Use of Baths in Health, Note on Children's Baths and School Baths.

Historical, the Use of Water Internally, General Action of the Baths, Cooling Hydrotherapy, the Douche Bath, Hot Air and Vapour Baths, Note on Hydrotherapeutic Institutions, General Characters of Medicinal Springs, Kinds of Medical Springs and their Uses, Kinds

of Baths and their Uses, the Medicinal Waters of Great Britain and the Climatic Element in Hydrological Treatment.

Gout, Rheumatism and Arthritis, Nervous and Mental Affections, Cardiac and Circulatory Disorders, Dyspepsia, Constipation, Glycosuria, Obesity, Kidney Affections, Anemia, Catarrh, Tuberculosis, Syphilis, Malaria, Skin Affections, Ovarian and Uterine Affections, Convalescence, Overstrain, Incipient Disease, Traumatism, Maladies of Old Age, the Province of the Spa Physician, the Question of Nomenclature, the Geographical Distribution of Medicinal Waters and Baths, An Index of Spas.

As a specimen of book-making this volume with its light, unglazed paper, is a credit to its publishers.

SURGICAL EXPERIENCES IN SOUTH AFRICA. Being mainly a clinical study of the nature and effects of injuries produced by bullets of small calibre. By George Henry Makins, C. B., F. R. C. S., Senior Surgeon to St. Thomas's Hospital, London; Vice-president of the Royal College of Surgeons of England; late joint lecturer on Surgery in the Medical School of St. Thomas's Hospital; Member of the Court of Examiners of the Royal College of Surgeons of England, and one of the Consulting Surgeons to the South African Field Force. Price \$3.75. 498 pp. Oxford University Press, American Branch, 35 West 32nd Street, New York.

The material from which this interesting book is composed was originally collected with the idea of sending a series of articles to the British Medical Journal during the Boer War. It was finally decided, however, to present them in the more complete form in which they now appear. As the first edition has been out of print for a number of years the second edition has been prepared. It is practically a reprint of the first, except for the continuation of a few of the histories of cases, notably those of cervical aneurism.

The ground covered in this volume is well indicated by the following summary of the chapter headings: Introductory, covering Itinerary, Surgical Outfit, Personal transport, General health of the troops, Climate, Consideration of the number of men killed and wounded, Transport of the wounded, Vehicles, Trains, Ships, Hospitals: Modern Military Rifles and Their Action; General Character of Wounds Produced by Bullets of Small Calibre; Injuries of the Blood Vessels; Injuries to the Bones of the Limbs; Injuries to the Joints; Injuries to the Head and Neck; Injuries to the Vertebral Column and Spinal Cord; Injuries to the Peripheral Nerves; Injuries to the Chest; Injuries to the Abdomen; On Shell Wounds.

The book is a very pleasantly written narrative of personal experiences and observations by a well equipped observer and it will well repay perusal even by those who are not particularly interested in surgery or military surgery.

It is splendidly illustrated with 28 full page plates and 105 illustrations in the text and in addition a number of very interesting temperature charts.

THE WISCONSIN MEDICAL JOURNAL

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EDITORIALS

THE NEW SECRETARY.

The action of the Council at its annual meeting in selecting Dr. Roek Sleyster of Waupun to fill the position of Secretary of the State Medical Society, will meet with general approval. Dr. Sleyster will have a difficult task before him, for no one could be expected to exactly fill the shoes left vacant after a quarter of a century of steady wear when Dr. Sheldon was elevated to the Presidency. The office is a trying and laborious one under all circumstances. But it is an important office; there is none more important in the whole organization. Therefore it was necessary to have the right man, and the Council and the Society are both to be congratulated that the right man was available.

Dr. Sleyster has had an admirable preparation for his new office by his able work in organizing and inspiring the Association of County Secretaries and State Officers, by his work as Head Booster, which was so effective in rousing some of our sleeping brethren, and more recently by his work as Assistant Secretary of the Society.

We feel sure that the general approval and hearty support of the united profession throughout the length and breadth of Wisconsin will help to make easier for Dr. Sleyster the heavy burden which has been placed upon his shoulders.

THE PRESENT STATE OF THE SOCIETY.

In the report of the Annual Meeting of the Council which appears on another page of this number of the Journal will be found the evidences of the continued healthy growth of the State Medical Society. We are growing bigger and stronger year by year. Let us see to it that we grow better also, and let us take pride in the feeling that each of us is doing his best to make the standard of medical practice in Wisconsin higher and purer than ever before.

THE OSHKOSH MEETING.

We seem to have hardly passed the last meeting but already the plans for the future are beginning to take shape and it is time for those who wish to present papers at the Oshkosh Meeting to begin giving the matter serious attention.

The Program Committee is ready to receive applications for space, and it will greatly facilitate the work of preparation if those who wish to be heard will send in their names promptly.

From the criticisms one sometimes hears one would imagine that the Program Committee had to write the papers as well as to arrange them. But all this unfortunate committee can do is to display as effectively as possible the wares which are offered.

Let us show our interest and our sympathy by a generous offering of papers!

A CORRECTION.

In the December number of the Wisconsin Medical Journal Dr. J. M. Hitzrot of New York City, whose annual Address in Surgery will be remembered by all who had the good fortune to hear it at the Annual Meeting in October, was burdened with some incorrectly given titles. His titles should have been given "Associate Attending Surgeon to the New York Hospital, and Assistant Professor of Clinical Surgery in Cornell Medical College," instead of which an error caused him to be announced as "Attending Surgeon New York Hospital and Associate in Surgery in Cornell University Medical School, New York."

THE EUGENIC MARRIAGE BILL.

After a short but troubled existence the Eugenic Marriage Bill may be expected soon to breathe its last, gently chloroformed by the courts of Wisconsin. The action of the Circuit Court in Milwaukee County in pronouncing the bill unconstitutional will cause the matter to be presented to the Supreme Court in the near future, and to the untutored mind of a mere medical man it does not seem probable that the sensible opinion delivered by Judge Eschweiler will be reversed.

The action taken by the Medical Society of Milwaukee County in adopting the report of the special Committee appointed to consider the subject may be taken as being fairly representative of the attitude of the medical profession at large towards this bill, so the report of this committee is given in full.

To the President and Members of The Medical Society of Milwaukee County:

In obedience to a resolution passed at the December meeting of the Society, your special committee, appointed to bring the so-called Eugenic Law to the attention of the Attorney General and the District Attorney of Milwaukee County for an interpretation of the law, an opinion as to its validity, and for suggestions as to means whereby those desiring to marry may be excused from complying with its provisions for the time being, beg leave to report that, in compliance with your instructions, duplicate communications were addressed to both officials under date of December 17, 1913.

A reply was received from the Attorney General under date of December 22, 1913, enclosing a copy of the Attorney General's interpretation of the law and his opinion on it, as previously forwarded to the Secretary of The State Board of Health. The copy reads as follows:

Dec. 22, 1913.

You have called my attention to chapter 738, laws 1913, which requires every male person applying for a marriage license to present a certificate of a licensed physician that he "is free from acquired venereal diseases so nearly as can be determined by physical examination and by application of the recognized clinical and laboratory tests of scientific search" and have asked me for my interpretation of the quoted phrase.

No specification is contained in the law as to what the required examination and tests shall be, but there are several provisions that throw considerable light on what was intended. The qualifications of the examiners are prescribed as follows: "Such examiners shall be physicians duly licensed to practice in this state, shall be persons of good moral character and of scientific attainments and at least thirty years of age."

The bill as originally introduced in the senate (No. 611, S) provided that "The state board of health shall appoint in each county not to exceed ten persons who shall be authorized to make the examination required", etc. This provision was stricken out of the proposed law by amendment No. 4, S. Obviously the purpose was to permit any reputable licensed physician thirty years of age and of scientific attainments to make the examination, and it follows that only such an examination was intended as such a practitioner could make. The legislature definitely discarded the plan of having a limited number of physicians who alone would be authorized to make the examination and who might thus particularly qualify themselves to make it by study and the purchase of special apparatus. It was thought wise to permit any reputable physician of the required age and attainments to make the examinations and issue the certificates. It follows that the examination required must be such a one as such physicians are ordinarily equipped by study, experience and the possession of apparatus to make.

In the second place the law imposes no absolute duty on any physician to make the examination except that it requires the county physician to make it without charge "if the applicant be indigent". The care thus shown to throw no financial obstacle—not even the payment of a three dollar fee—in the way of the marriage of a man who is "indigent" (i. e. "destitute of property or means of comfortable subsistence", *Juncau County vs. Wood County*, 109 Wis., 330. 3) is interesting though not particularly important here. But although no duty is imposed on any physician to make the physical examination and laboratory tests prescribed, the amount that such physician may charge therefor is limited to three dollars. Plainly, only such an examination and tests were contemplated as the ordinary physician would be willing to make for that fee; otherwise compliance with the law would be practically impossible.

If there are "clinical and laboratory tests" such as the Wassermann test, which require special study and special apparatus for their application and which only a very small per cent. of the licensed physicians of scientific attainments can apply, I am convinced that the law was not intended to require and therefore does not require such tests. I do believe that the law was en-

acted on the assumption that physicians more than any other class of citizens would appreciate the wisdom and necessity thereof and would co-operate to the best of their ability in its enforcement. The purpose was not to provide a new source of revenue for the doctors nor, on the other hand, was there an intent to place an undue burden on them. No doubt reliance was placed on the well known public spirit of the medical profession and the fee fixed at a figure which would cause hardship neither to the applicant nor to the examiner. It is, of course, apparent that physicians can be found who will issue the required certificates no matter what tests the law may be deemed to require, so that unless the reputable physicians will co-operate to make the law effective (and if they will not no law of the kind can be successful) the law must largely fail to accomplish any good. But I am convinced that the great mass of the reputable physicians will desire to save the law and their profession from disrepute and will therefore endeavor to carry out the spirit of the enactment and hold themselves ready to give such examinations and tests as the ordinary reputable physician of scientific attainments is equipped to make and may reasonably be expected to make for the fee prescribed. Otherwise it is plain that the charlatans of the profession will seize on this law as a new source of revenue and thus bring the law into disrepute and dishonor to their profession.

It is common knowledge that no life insurance company would insure a man suffering from syphilis, that physicians make examinations of applicants for life insurance for fees not larger if even always as large as that provided by this law even though the examination covers many other things than the presence of venereal diseases, and that many physicians are glad to make such examinations for such fees. The law in question does not require examination for any other purpose than to disclose the presence or absence of venereal disease, and may well require a somewhat more thorough examination for that particular purpose than is given by the ordinary physician in examining an applicant for life insurance. But the point is that it was well known that life insurance companies issued policies on the assumption that the examinations made for fees no greater than are prescribed by this law could be relied on to indicate the absence of at least the most serious venereal diseases, so that such examinations give some criterion as to what was expected here. Though, as stated, I have no doubt but that the legislature relied on the physicians of the state to lend their aid in making this law as effective as possible by giving just as thorough an examination and just as conclusive clinical and laboratory tests as can be done without loss to the physician for the fee prescribed.

Summarizing my conclusions, I am of the opinion that the law must be given a practicable and workable construction rather than one that will defeat its purpose and possibly render it unconstitutional and void; that its obvious purpose was to require only such an examination and tests as the ordinary reputable licensed physician of scientific attainments is equipped to make

capable of making and could reasonably be expected to make for the fee of three dollars; and that "the recognized clinical and laboratory tests of scientific search" do not include the so-called Wassermann test nor such tests as can be made only by specialists, nor such as require special and expensive equipment or long continued laboratory experiments.

If the physicians of the state will accept the law in this spirit and endeavor to comply with its provisions. I have no doubt but that it will prove what it was intended to be, a step in the right direction, and that the experience gained under its operation during the next year will enable the legislature of 1915 to remedy any deficiencies that may be found to exist in the law as it now stands.

Very truly yours,

ATTORNEY GENERAL.

It is thus seen that the Attorney General's interpretation and opinion concludes that it is not necessary to apply the recognized clinical and laboratory tests of scientific search as a prerequisite to issuing a certificate even though the blank form for the certificate requires the physician to certify that a careful and thorough examination has been made including the application of the recognized clinical and laboratory tests of scientific search.

The District Attorney's reply was dated December 23, 1913, and stated substantially that, inasmuch as the Attorney General had passed upon the act, an opinion from the District Attorney's office was unnecessary because the Attorney General's interpretation and opinion would supersede any opinion which he may forward.

Your committee has considered the provisions of the law carefully and has had advice and counsel from the members who took part in the discussion at the December meeting and concludes:

That the members of the Society, as physicians and as good citizens, should co-operate in carrying out the provisions of the law in so far as their individual consciences will permit;

That the members of the society who can conscientiously sign the certificates without the application of the recognized clinical and laboratory tests of scientific search should of course do so. Such practice has the sanction of the Attorney General's office. Your committee would point out, however, that, according to several attorneys, the interpretation and opinion of the Attorney General theoretically affords no more protection than would an interpretation and an opinion of any recognized member of the bar. The Attorney General's interpretation and opinion will probably be all the protection required against possible prejudice and malpractice proceedings until such time as the Supreme Court may pass upon the act or the law is amended or repealed.

That those who can not conscientiously issue a certificate without having applied the recognized clinical and laboratory tests of scientific search should explain the circumstances to all those applying to them and refuse to pass upon their eligibility to a marriage certificate under the law unless they shall submit to and

pay for such tests as modern and scientific diagnosis and the letter of the law require; or exercise their privilege of refusing to issue certificates under any and all circumstances.

Owing to the general confusion attendant upon the act, your committee suggests that it would be well for members, issuing certificates without having applied the recognized clinical and laboratory tests of scientific search, to secure a signed release from legal responsibility from persons to whom such certificates are issued.

Respectfully submitted,

J. P. McMAHON, *Chairman.*

E. A. FLETCHER,

H. M. BROWN.

To turn now from the destructive to the constructive attitude may fairly be asked of the medical profession. If an attempt is to be made to limit the spread of the venereal diseases, how shall the law be framed?

In the first place it should be thoroughly understood by all concerned that infallibility cannot be expected in this matter. All that can be looked for under the most perfect law is the prevention of a portion of the total amount of venereal disease. Just how large a portion can be prevented in this way no one knows, but it would perhaps be a large enough proportion to make the effort worth while. Certainly the educational effect would be valuable to the community.

It seems to the writer that the present law has met with disfavor chiefly because it specifically demands the carrying out of laboratory tests which the average practitioner of medicine is unable to perform.

The law says "it shall be unlawful for the county clerk of any county to issue a license to marry to any person who fails to present and file with such county clerk a certificate setting forth that such person is free from acquired venereal diseases so nearly as can be determined by physical examination and by the application of the recognized clinical and laboratory tests of scientific search." If this sentence had ended with the words "so nearly as can be determined", or if it were changed to read, "so nearly as can be determined by careful and thorough examination", it seems to us that the law would be asking as much as can reasonably and honestly be asked.

And in the prescribed form of certificate if the words "having applied the recognized clinical and laboratory tests of scientific search" were omitted we believe nothing but advantage would result.

These words simply give a false sense of security

and do not alter in the least the character of the examination which the medical profession is able to give, equipped as it is today.

It must be remembered that marriage license certificates must be issued in every village and hamlet in Wisconsin, and it is folly to ask for more in the way of an examination than the average practitioner can give, unless the whole matter is to be turned over to a board of official examiners.

Another point in regard to the bill which requires consideration is the question of the registration of rejected candidates. Under the law in its present form a man might be rejected for good and sufficient reasons by ten examiners in succession, but if the eleventh were caught napping and issued a certificate of good health the county clerk would have no knowledge of the previous attempts of the applicant and would issue the license without hesitation.

There are other features of this bill which will give rise to diversity of opinion when the subject is again brought up for discussion but space does not permit their consideration here.

ATTEMPTED BLACKMAIL.

In our last issue we called attention to an ingenious method of attempted blackmail which had been detected in Indiana. A few days after that number of the Journal had reached our readers a wide-awake physician in Central Wisconsin sent to us the following letter which he had received several months earlier:

————— Wis., Sept. 11th.

Dear Sir:—

You will be surprised to get this, but please consider it confidential.

I hardly know why I am writing you, as I only heard your name mentioned by a friend who lived near there, but you are a *stranger*, and I could not go to one I know and must meet afterward.

I am pregnant, over two months gone, and unmarried. That tells all, except that I am deserted and nearly worried out of my mind. I must get free at any cost, as I would rather die than have it found out, for it would ruin my whole life.

Forgive me, but wont you please do something for me, or tell me where I can go for quick relief? If you will I will pay well for it and be forever grateful to you.

Please do not be angry with me for asking your aid. God only knows how hard it is for me to do, but I must get help, and if you knew all, you could not blame me for it.

I can make an excuse to get away for a short time, and if you can assist me in any way, kindly let me know at once, about what the cost should be, and how soon I can act.

Please use plain envelope.

Sincerely yours,

Destroy

Miss _____,
_____, Wis.

A comparison of the Indiana and the Wisconsin letters shows so great a similarity between them that it is evidently the work of the same band of blackmailing artists.

The physician who sent us this letter was not taken in by the clever plan but it is possible that there may be others in our state who were.

In any event a knowledge of this little scheme will prevent the unwary from falling into the trap.

NEWS ITEMS AND PERSONALS

DR. J. C. HOSTER of Spring Valley has left for an extended visit in California. Upon his return next spring he will form a partnership with Dr. Miltenberger at Spring Valley.

DR. C. G. MAES of Kimberly went down an embankment with his automobile on December 17th. He escaped with slight injury.

DR. W. H. DRIESSEL of Kewaunee narrowly escaped serious injury at Pt. Washington on December 19. While crossing the railroad tracks his automobile was struck by a train. The machine was carried about 150 feet before the train was brought to a standstill. Dr. Driessel was uninjured.

DR. EDW. J. FUCIK has recently been appointed local surgeon at Williams Bay, Wis., for the C. & N. W. R'y.

THE TWELFTH INTERNATIONAL CONGRESS OF OPHTHALMOLOGY will be held in St. Petersburg from July 28th to August 2nd, 1914, of our calendar, (August 10th to 15th, Russian calendar). Communications concerning the Congress may be sent to the secretary, Dr. Th. Germann, Ophthalmic Hospital, Mochowaja 38, St. Petersburg, or to the Corresponding Members for the United States: Drs. A. Knapp, New York City, Edward Blaaw, Buffalo, G. E. de Schweinitz, Philadelphia, Adolph Barkau, San Francisco, and W. H. Luedde, St. Louis.

DR. C. U. SENN, of Ripon, is just through with a very unpleasant experience in the way of a prosecution on the charge of criminal abortion. The action was brought by the district attorney on the instigation of another physician. At the conclusion of the testimony and, without argument, the district attorney moved that the case be dismissed and the defendant found not guilty by the court, on the ground that the testimony was not worthy of credence.

MARQUETTE UNIVERSITY MEDICAL SCHOOL has been placed in the "Full registered list" by the Department of Education of the State of New York. Through this rating, time and subject credits for work done at this school will be honored in full in the future.

A SIXTY DAY'S TOUR of the well known European surgical clinics is being arranged under the auspices of the Georgia Surgeons Club, to close with the meeting of the Congress of Surgeons of North America in London the latter part of July, 1914. Representative surgeons are invited and may secure details of the trip from the Secretary, Dr. R. M. Harbin, Rome, Ga.

DR. H. E. PURCELL, Madison, has returned from Chicago, where he underwent an operation for a mastoiditis. He has resumed his practice.

DR. RHODES of Beloit met with a serious accident on December 24. While driving his machine along a country road, it was overturned by a deep rut in the road. Dr. Rhodes suffered a fractured shoulder and other serious injuries.

GOVERNOR MCGOVERN on January 9, announced the following appointments: Dr. S. T. Clark, Waupun, as a member of the State Board of Medical Examiners, to succeed Dr. Milton Rice of Milwaukee, resigned, for the term ending July 1, 1917. Dr. John M. Beffel of Milwaukee as a member of the State Board of Medical Examiners to succeed himself, for a term ending on July 1, 1917.

At a meeting of the Staff of visiting physicians of the Emergency Hospital, Milwaukee, Dr. Wilhelm Becker was chosen president and Dr. Oscar Lotz, secretary.

ST. MARY'S HOSPITAL, Watertown, founded six years ago by Dr. J. C. Habegger, has been transferred to the Servant Sisters of the Holy Ghost, Roman Catholic order.

According to a report from the town of Roekton, Ill., Beloit physicians who hold only Wisconsin licenses to practice medicine will be obliged to get Illinois licenses or refrain from crossing the state line. The town of Roekton is near Beloit.

Eau Claire County's new tuberculosis sanatorium was opened on December 16 with twenty patients. The cost was \$16,000.

The Northwestern Road, in accordance with an act passed by the last legislature, will carry on every train emergency surgical dressing boxes.

Seven thousand persons were vaccinated by the Milwaukee Health Department during the past month, according to figures given out by the Health Commissioner.

Milwaukee Children's Free Hospital was the recipient of a gift of \$4,054.76, the net proceeds of the 1913 horse show.

MARRIAGES

Dr. G. E. Knauf and Miss Josephine M. Reiss, both of Sheboygan, January 7th.

Dr. M. K. Green and Miss Mamie Walsh, both of Mendota, January 5th.

REMOVALS

Dr. S. F. Rudolph, Ellsworth to Albert Lea, Minn.

Dr. H. S. Wahl, Stratford to Wausau.

Dr. Miltenberger, Seatonville to Spring Valley.

Dr. W. H. Owen, Sussex to Milwaukee.

Dr. S. J. Pake, Superior to Duluth, Minn.

Dr. F. H. Baldwin, Livingston to Bloomington.

Dr. H. C. Ericksen will resume his practice at Stanley after a year's absence spent in Chicago and Eau Claire.

Dr. J. R. Mitchell of Washburn has removed to Chicago, where he assumes the superintendency of the Gottschalk Institute.

DEATHS

DR. S. WEIR MITCHELL is dead at Philadelphia, aged 85 years.

DR. KNUT STORLIE, for many years located at Coon Valley died on December 29 after an illness of several weeks. Dr. Storlie was born in Minnesota 45 years ago. He was a graduate of the Bennett Medical College, 1896. He was a member of Vernon County and the State Medical Societies.

DR. EDWARD W. MALONE of Waukesha died on January 10 of apoplexy. Dr. Malone was born at Rochester, Racine County, on November 22, 1855. He began the study of medicine with Dr. George Newell. Later he attended the Baptist Seminary at Rochester and the Episcopal College at Racine, and then entered the University of Illinois College of Medicine, graduating in 1885. For five years he practiced at Oconomowoc, coming to Waukesha in 1890. He was a member of the Waukesha County and State Medical Societies.

DR. PETER MCKITTRICK, of Eau Claire, died on December 18, aged 48 years. Dr. McKittrick was born January 7, 1866, near Lanark, Ontario, coming to this country when a young man. He graduated from Rush Medical College in 1889. Immediately after graduation he began the practice of medicine at Thorp and with the exception of one year he practiced there continually until February 1908. During the one year intervening he practiced at Portland, Ore. In 1908 he came to Eau Claire and had resided there at the time of his death. In 1910 he formed a partnership with Dr. E. L. Mason. He was a member of the Eau Claire County and State Medical Societies.

DR. CARL REINHARD, Milwaukee, died after a lingering illness, aged 66 years. Dr. Reinhard was born July 1, 1847, in the town of Melsungen, Germany. He received his early education in that city, later receiving his degree at the University of Marburg, Germany. He took a post-graduate course in Vienna, Berlin and Prague. He served in the Franco-Prussian War as a surgeon. In 1876 he came to Milwaukee where he practiced his profession until five years ago, when he was forced to retire on account of ill health. Dr. Reinhard was a member of the Milwaukee County, the State Medical Society and was one of the founders of the Verein Deutscher Aerzte, a German Medical Society.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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S. S. HALL, Ripon, Treasurer

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6th Dist., H. W. Abraham, - Appleton

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10th Dist., R. U. Cairns - River Falls

TERM EXPIRES 1918
3rd Dist., F. T. Nye - Beloit
4th Dist., W. Cunningham - Platteville

TERM EXPIRES 1914
7th Dist., Edward Evans, - La Crosse
8th Dist., T. J. Redelings - Marinette

TERM EXPIRES 1916
11th Dist., J. M. Dodd - Ashland
12th Dist., H. E. Dearholt - Milwaukee

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NEXT ANNUAL SESSION, OSHKOSH, 1914

The Wisconsin Medical Journal, Official Publication.

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

Table with 3 columns: County, President, Secretary. Lists medical societies across Wisconsin counties with their respective officers.

SOCIETY PROCEEDINGS

SECRETARY'S NOTES—THE PRESIDENT'S MESSAGE.

In view of the fact that I have been honored with the Presidency of the Society, I shall venture to include in these "notes" a sort of a presidential message. I confess that, while I have a thankful appreciation of the great honor which has been conferred on me by my fellow members, there is mingled with it a sincere regret that I have, at the same time, to lay aside the work which has been so much a part of my life for the past twenty-four years. That the work has been pleasant and congenial is due, more than anything else, to the loyal and united support which has been so fully and generously given me by the members of the society. This has never failed me, and for it I wish to return my heartfelt thanks. I feel confident that I can rely upon the same spirit of helpfulness and sympathy during the coming year of my Presidency.

Conditions seem favorable for a general advance along the whole front. We have numbers, harmony, a well-knit organization, and a personnel of the profession which is, all the time, growing better. To succeed, we need only to plan wisely, and act together.

The 1913 membership is 1743, which is 55 more than we have ever had before. The 53 county societies which make up the total, are each year realizing more fully the possibilities of the Medical Society in its relation to the individual members and the profession as a whole. I think the time has now come when, at the beginning of the year, we should, as an organized profession, lay out a definite program of measures which we shall endeavor to realize by concerted action during the year. By such means we can utilize our strength, and promote the best interests, both of the profession and the general public.

Before all things, use the county society *only* for its legitimate purposes. Rule out, with a stern hand, all personal bickerings or factional strifes. It is the last place in the world for their exhibition. The slogan is now—as ever—"get together!"

There is much we should like to see righted, but it is not wise to attempt too many things at once. One measure, all important, and which seems feasible, is to endeavor to raise the standard of ad-

mission for physicians coming into the state to engage in practice. Next year, the only two Medical Schools in Wisconsin will both require for admission two years of college work in addition to a four years high school course. This is simply in line with the recent rapid advance in requirements for admission in all our best Medical Schools. Thirty-eight now require two years of college work, and thirty-eight others one year, leaving only thirty of the one hundred and six Medical Schools now in the country with lower standards.

The present standard in Wisconsin is only a high school course, which practically admits from all the Medical Schools, good and bad. It seems to me we should endeavor to secure such legislation as will authorize our State Board of Medical Examiners to adopt the standard of our two Medical Schools,—two years of college work. This seems the next most natural and legitimate step for us to take and I can think of nothing, within our reach which would more contribute to raise the standard of Medical Education in Wisconsin, or be of greater benefit to the whole profession of the State. It is only just that we should not require a higher standard for the graduates of our own Medical Schools than we do for those coming into the state from schools with inferior educational standards.

Already twelve State Boards require one or more years of college work, and seven of them require *two* years, including the four states directly west of us, Minnesota, Iowa and the two Dakotas. Michigan and Illinois are both likely to raise their standards soon, and we cannot afford to become the dumping ground of the North-West!

If this measure meets your approval, an energetic campaign should be at once begun in its favor, and our plans should be fully matured before the next meeting of the Legislature. The officers of every county medical society should see that the representative and senator from their district are fully informed as to the merits of the question, and all proper means should be employed to persuade them to support the measure.

As bearing upon the same subject, I think the relation of the State Medical Society to the Medical Schools of the State has not been sufficiently emphasized in the past. Our society embraces, practically, the whole medical profession of the state. It is entirely fitting that this body should officially recognize the Medical Schools, and do all

in its power to actively assist in making Medical Education in Wisconsin as efficient as possible. It should, naturally, be a subject claiming our especial care and solicitude. Indeed, we might justly be held responsible, in a measure, for its character and standards. It follows that, in solving these problems of Medical Education, the Medical Schools and the medical profession should act in harmony, and, in this working together, they doubtless might be of great mutual assistance. To this end, there should be established some organic relation between the schools and the organized profession. I have no specific plan to urge, but would suggest that an advisory board of three or four members be selected to represent the state society in connection with each of the Medical Schools. They would plan to meet with the faculties, to advise as to general policy, methods of instruction, equipment, etc. They would acquaint themselves with the workings of the institutions and report directly to the society through the Journal, and at the Annual Meeting, as to the actual conditions which may exist. At any rate, by this or some other means, steps should be taken to bring these institutions into closer harmony, and more practical working relations.

I have time to barely mention some other subjects, trite, but pertinent.

There is still much room for improvement in the scientific work of the county societies. The question is, How can we make it better? It lies, pretty much, with each county secretary. This is the first essential—a good secretary; then a carefully wrought out and thoroughly digested program for the whole year. Do not neglect the social features. The members should do most of the work, and do not depend too much on outside attractions. A quarterly county bulletin, edited with good judgment, is a splendid aid.

Our system needs a constant supply of fresh blood, so do not fail to seek out and approach every new man coming into the county, the young men especially, and then see that they have something to do.

"The Principles of Ethics" are simply the rule of conduct of honorable gentlemen. If we do not live up to this standard, we need not complain of hostile criticism. "Fee-splitting" is neither honorable nor gentlemanly. It is now made a crime by legal enactment. It will be highly discreditable to the medical profession if we do not see to it that

this law is made effective all over the state, in spirit and in letter.

In conclusion, I wish you to help me make this year the banner year in our history,—by better work in the county societies;—by doing all in our power, by precept and example, to maintain the highest standards of professional conduct;—by cultivating, at all times, friendly and fraternal spirit with every worthy member of the profession. And then we will all meet together next October at Oshkosh, for a hearty greeting and a general round-up of the whole year's work, and with a program fit for such an occasion.

I am sure this reasonable request will meet a generous response.

C. S. S.

ANNUAL MEETING OF THE COUNCIL.

The Annual Meeting of the Council of the State Medical Society of Wisconsin was held Jan. 3, 1914, at the rooms of the Milwaukee Medical Society, and was called to order by Vice-president Edward Kinne at 11 a. m. There were present Councilors Dearholt, Zierath, Cairns, Nye, Abraham, Windesheim, Hay, Wilkinson, Redelings and Dodd, Vice-president Kinne, Treasurer Hall and Secretary Sheldon.

The Secretary's report to the Council was then read as follows: The membership for 1913 is 1,752, a gain of 62 over the preceding year, and a gain of 441 over 1904 when the new organization was effected, an average gain of about 50 during the nine years. The membership being in 1904, 1,311; 1907, 1,493; 1910, 1,606; 1912, 1,690; and 1913, 1,752. Of the councilor districts, eight show a net gain and four a net loss. Those showing the largest gains are the third, 16; the fifth, 15; and the eighth and twelfth each 11. Those showing the largest losses are the ninth, 17 and the seventh, 8. There were no losses in any of the societies comprising the fifth, eighth, eleventh and twelfth and no gains in those of the seventh and ninth.

Of the county societies, 25 show a gain, 19 a loss, and 9 are the same as last year. Those showing the largest gain are Sheboygan 13, Dane 12, Milwaukee 11, Barron, etc. 10.

Those showing the greatest loss are Pierce and Green Lake each 5, Racine, Juneau and Marathon each 4.

The Councilors then reported from their respective districts.

After discussion these reports were accepted.

The subject of Contract Practice was discussed at length and a Committee was appointed to present resolutions bearing on the subject at the afternoon session. Drs. G. Windesheim and W. F. Zierath were appointed, as such Committee. On motion, the action of the Walworth County Society in refusing to accept a transfer from Brown-Kewaunee was approved.

On motion, Councilor Zierath was authorized to organize a component society in Ozaukee County. Adjourned till 2 p. m.

AFTERNOON SESSION.

Council met at 2:30. The Committee appointed to prepare resolutions on Contract Practice reported as follows:

"The Council of the State Medical Society, realizing that Contract Practice is an evil which reacts to the detriment of the best interests of the medical profession, that it tends to deprive physicians of a large part of their legitimate source of income, and that the welfare of the medical profession and the laity is best promoted by its complete suppression, does therefore recommend to the various component county societies that they draw up and pass appropriate resolutions looking toward the abolition of contract practice and that county societies are empowered to refuse to grant membership to applicants doing contract practice and to suspend or expel those not abiding by the resolutions when passed."

After discussion, the resolution was adopted.

The election of a Secretary of the Society in place of Dr. Sheldon was next in order and Dr. Rock Sleyster of Waupun was unanimously elected for the ensuing year.

On motion, a Committee was appointed to investigate the practicability and advisability of uniting the Editorship of the Journal and the Secretaryship of the Society in one office, and report at the next Annual Meeting of the Council.

Drs. Dearholt, Windesheim and Hay were appointed as such Committee.

Dr. J. P. McMahon then presented his annual report as Managing Editor of the Journal.

On motion the report was accepted and placed on file.

On motion, \$1,000 was appropriated from the Treasury of the Society for the Medical Journal.

On motion, Dr. S. S. Hall was elected Treasurer of the Society for the coming year.

On motion adjourned.

C. S. SHELDON, Secretary.

ASHLAND COUNTY

Ashland County Medical Society met on December 17th at the Rinehart Hospital, Ashland, the guests of Dr. Rinehart. The meeting was of particular interest it being the 21st anniversary of the Society. Drs. Dodd, Rinehart, Marehesault, O'Brien, M. J. Hosmer and M. S. Hosmer are the only physicians living who were charter members of the Society.

Following a banquet the new officers were elected as follows: President, Dr. Rinehart, re-elected; vice president, Dr. H. A. Sineock; secretary, Dr. George Harrison.

BROWN COUNTY

Brown County Medical Society assembled at the Beaumont Hotel, Green Bay, for a dinner at 8 o'clock, December 18th, after which they listened to a talk by Dr. J. L. Yates of Milwaukee on "Indications for and Results from Decompression." A discussion followed. Over twenty physicians of the county attended. Dr. Yates was elected an honorary member of the society.

DANE COUNTY

At the annual meeting of the Dane County Medical Society held on December 10th at Madison, the following officers were elected: President, Dr. T. W. Torney; vice president, Dr. H. A. Gilbert; secretary, Dr. Frank Meade.

Dr. C. S. Sheldon read a paper on "The Evolution of Medicine in the Past Fifty Years." Dr. Philip Fox read a paper on "The Doctor."

DOUGLAS COUNTY

DECEMBER MEETING.

The annual meeting of the Douglas County Medical Society was held at the Superior Commercial Club, December 13, 1913. An elaborate banquet was served, attended by forty, after which Dr. M. P. Ravenel addressed the Society on "Serum-Therapy." The election of officers followed: President, Dr. C. F. Gould; vice president, Dr. A. G. Hovde; secretary-treasurer, Dr. W. H. Schnell; censors, Drs. L. A. Potter, W. E. Ground, L. A. Hoffmier; delegate, Dr. C. D. Conkey. Dr. M. P. Ravenel was elected honorary member.

JANUARY MEETING.

On January 7, 1914 the regular meeting was held. Dr. A. G. Hovde read a paper on "The Pituitary Body." After the reading of the paper and the discussion, the new Eugenic Law was discussed. It seemed to be the consensus of opinion that the physicians could not make the examinations for the fee specified in the law, as the law implies a Wassermann and other tests should be made. It was deemed best to wait for further developments in the working out of the law. There were twenty-three members present at the meeting.

DUNN COUNTY

Dunn County Medical Society held its annual meeting at the Hotel Royal on January 1st, at Menomonie. Officers were elected as follows: President, Dr. L. A. Larson, Colfax; vice president, Dr. A. Egdahl, Menomonie; secretary, G. A. Baker, Menomonie; treasurer, B. J. Steves, Menomonie; censor, F. E. Butler, Menomonie.

EAU CLAIRE COUNTY

The regular monthly meeting of the Eau Claire County Medical Society was held on December 29, at Eau Claire, at the Eau Claire Club building. The program consisted of a paper by Dr. D. J. Goddard on "Glaucoma," and a "Demonstration of the New Lantern" by Dr. J. C. Baird.

GRANT-CRAWFORD

The physicians of Grant and Crawford Counties held a joint meeting at Boscobel, Thursday, December 11th. This being the annual meeting, the committee had endeavored to make it an occasion of unusual interest, and prepared a program that was both interesting and instructive. The first number on the program was one in which all participated, being a fine banquet at the Central House, given by the Boscobel physicians and was voted a decided success. Adjournment was then made to the M. W. A. Hall where, judging from the invitations we had received, a rare treat was in store for us. We soon discovered that we were not to be disappointed. Dr. Charles Davison, president of the Chicago Surgical Society, addressed the meeting on "Diagnosis of Abdominal Tumors." It was an address replete with interesting and positive diagnostic points, and the pleasing manner of presentation impressed it upon the minds of his hearers. Dr. G. W. Henika of the State Board of Health, Madison, presented a carefully prepared paper on Poliomyelitis, giving the results of his special researches in this dreaded disease, and deductions from his large experience which would be of benefit to physicians. A paper on Diabetes and its Relation to the Ductless Glands, by Dr. W. E. Bannen of La Crosse, with illustrations prepared by himself, presented many new ideas in the study and management of this insidious disease.

Dr. R. M. White of Prairie du Chien gave a report of two interesting surgical cases that had been under his care, emphasizing his remarks by exhibiting specimens removed.

A vote of thanks was extended Dr. Davison, Dr. Henika and Dr. Bannen for their efforts to be with us, and for the excellent papers presented. We regret that every member of both societies could not hear them, for rarely do we have so many papers of high merit at a county medical society meeting. The very bad conditions of the road made it impossible for many from a distance to attend.

Election of officers for Grant County resulted as follows: President, Dr. S. W. Doolittle, Lancaster; vice president, Dr. Ed. McDonald, Cuba City; secretary-treasurer, Dr. M. B. Glasier, Bloomington; censor, Dr.

C. S. Hayman, Boscobel; delegate, Dr. W. P. Hartford, Cassville.

There were present Drs. Chas. Davison, Chicago, G. M. Henika, Madison, W. E. Bannen, La Crosse, R. M. White, F. J. Antoine, R. R. Harris and C. A. Armstrong, Prairie du Chien; W. C. Coumbe, Blue River; G. G. Gobar and C. R. Pickering, Museoda; C. S. Hayman, J. C. Betz, Hugo Popper and L. G. Armstrong, Boscobel; M. B. Glasier, Bloomington.

M. B. GLASIER, M. D. Secretary.

GREEN-LAFAYETTE

A joint meeting of the Green and LaFayette County Medical Societies was held at Brodhead Dec. 30, 1913. Those present from LaFayette were: Drs. Lehnkering and Shockley of Darlington; Dr. Larsen of Blanehardville and Hayden and Gratiot of Shullsburg. The Green County members in attendance were Drs. Moore, Gnagi and Moyer of Monroe, Blumer of Monticello, and Mitchell, Darby, Sutherland and Rowe of Brodhead; Drs. Pember, Nye and Keithley of Rock County were present as invited guests. There was held a forenoon and an afternoon session.

The meeting was called to order at 10:30 a. m. by Dr. E. J. Mitchell, vice president of the Society. The following papers were read and discussed at the forenoon session: Infantile Paralysis by Dr. W. B. Gnagi of Monroe; The Uses of Iodine in Surgery by Dr. L. A. Moore of Monroe; Placenta Praevia by Dr. H. Shockley of Darlington. All dined together at the Shorb Hotel. Owing to the elaborate program for the afternoon session the usual after dinner speeches were omitted.

The afternoon session was called to order by Dr. L. A. Moore president of the Society. The following papers were read and discussed: "X-Ray in Fracture by Dr. J. F. Pember of Janesville; "Pathology of Failing Cardiac Compensation" by Dr. G. S. Darby of Brodhead; "A New Method of Skin Grafting" by Dr. C. F. Lehnkering of Darlington; "History of Supposed Stone in the Pelvis of the Kidney" by Dr. C. C. Gratiot of Shullsburg; "Traumatic Diseases of the Eye" by Dr. A. Sutherland of Brodhead.

The Eugenies bill was discussed at some length which resulted in the following resolution being adopted:

"Resolved, That the members of both Green and LaFayette County Medical Societies refuse to make the examinations as required by the Eugenies Bill until further consideration and enlightenment regarding its wording."

Owing to lack of time the election of officers was postponed until the next meeting.

S. R. MOYER, M. D., Secretary.

JUNEAU COUNTY

The eleventh annual meeting of the Juneau County Medical Society was held at Camp Douglas December 9, 1913. Meeting called to order at 11 a. m. by the president, Dr. T. S. Lawler. Minutes of the last meeting were approved as read. The president, Dr. T. S. Lawler, then delivered a most interesting address, "The Physician in his Community." The law requiring the reporting of tubercular cases was thoroughly discussed

by the members of the Society. At 1 o'clock the meeting adjourned for luncheon which was served at the Brick Hotel.

Meeting called to order at 2 p. m. the president presiding. On motion the Society introduced a resolution, to be presented to the County Board of Supervisors, recommending the establishment of a tuberculosis sanatorium in the county. On motion the Society decided to hold an open meeting at Mauston in the interest of the tuberculosis movement, the time and date to be decided later. On motion the following committee were selected to make the necessary arrangements for said meeting: Drs. W. B. Parke, A. T. Gregory, T. S. Lawler, B. Starnes and E. H. Townsend.

The following officers were elected for the ensuing year: President, W. B. Parke; vice president, C. C. Vogel; secretary-treasurer, A. T. Gregory; delegate, E. H. Townsend.

Camp Douglas was selected as the place for the next Annual Meeting. On motion the Society adjourned.

A. T. GREGORY, M. D., Secretary.

KENOSHA COUNTY

The new officers elected at the annual meeting of Kenosha County Medical Society are: President, C. H. Gephart; vice president, J. F. Hastings; secretary-treasurer, A. H. Randall; censor, G. F. Adams.

LA CROSSE COUNTY

The annual meeting of the La Crosse County Medical Society was called to order by the vice president, Dr. H. E. Wolf at the La Crosse Club on Dec. 4, 1913. The minutes of the previous meeting were read, and approved as read.

Dr. Gray reported a case of bichloride of mercury poisoning induced by a douche containing the drug, and resulting in death on the 21st day.

Dr. Evans reported an interesting case of cancer of the stomach, in which he did a resection of two-thirds of the stomach.

There being no further clinical cases to report the society then proceeded to the election of officers for the ensuing year, which resulted as follows: President, Dr. H. E. Wolf, La Crosse; vice president, Dr. G. W. Lueck, La Crosse; secretary-treasurer, Dr. J. M. Furstmann, La Crosse; censor for three years, Dr. A. Gunderson.

There being no further business the society adjourned.

GEO. W. LUECK, M. D., Secretary.

JANUARY MEETING.

Nineteen members of the La Crosse County Medical Society gathered at St. Francis Hospital at 7:30 p. m., Jan. 8, 1914. After a bountiful luncheon served by the sisters a rising vote of thanks was given them in token of appreciation of their hospitality. Then the meeting was called to order by the president, Dr. Wolf. The minutes of the last meeting were read and approved. The president then read his annual address, which was well received by the members present. The censors reported favorably on the application of Dr. Jewell of Mindoro, the report was upon motion adopted.

Dr. Geo. Christianson of the Lutheran Hospital reported two interesting cases from the practice of Drs. Christensen and Gundersen, one of tuberculosis of the cecum, and one of primary carcinoma of the liver. Microscopic sections of both cases were shown.

Dr. Evans showed sections of two types of goitre, and gave the histories of several interesting cases he had lately seen.

Dr. Bannen reported a case of laryngeal diphtheria in which it was necessary for him to do tracheotomy two times. X-ray plates of other cases in the Hospital were demonstrated by Dr. Edwards of the Hospital. Then after examining the microscopic specimens, and discussing the X-ray plates the society adjourned, everyone agreeing that this was one of the most helpful and interesting meetings they had attended for some time.

GEO. W. LUECK, M. D., Secretary pro tem.

OUTAGAMIE COUNTY

Regular meeting of the Outagamie County Medical Society was held at the Riverview Sanitarium, Little Chute, Jan. 6, 1914. Meeting called to order by the president, Dr. C. G. Maes at 2 p. m. Dr. Dearholt having come up from Milwaukee was invited to say a few words; he confined his remarks to preventive medicine along the line of tuberculosis, he also congratulated us on our splendid sanitarium. Dr. C. D. Boyd on whose invitation we were guests of the sanitarium said a few words on the procedure of admittance of patients to the sanitarium, Dr. Boyd being selected by the trustees as attending physician.

The president appointed a nominating committee to select officers for the coming year, the election resulting as follows: President, Dr. J. R. Scott; vice president, Dr. J. J. Laird; secretary-treasurer, Dr. F. P. Dohearty; delegate, Dr. C. G. Maes; alternate delegate, F. P. Dohearty; censor, Dr. G. A. Ritchie.

On motion Society adjourned.

F. P. DOHEARTY, M. D., Secretary.

MANITOWOC COUNTY

Manitowoc County Medical Society held its annual meeting Jan. 6, 1914, and elected the following officers: President, Dr. W. G. Kemper; vice president, Dr. A. J. Shimek; secretary-treasurer, Dr. W. E. Donohue; delegate, Dr. J. R. Currens; alternate, Dr. C. M. Gleason.

W. E. DONOHUE, M. D., Secretary.

MARATHON COUNTY

The last meeting of the year of the Marathon County Medical Society was held on December 15, at the Wausau Club, Wausau. Dinner was served at 7 o'clock. A paper on "Infections of the Hand, Diagnosis and Treatment" was read by Dr. R. W. Jones. "Rheumatism of Childhood" was the subject of a paper by Dr. S. M. B. Smith.

PORTAGE COUNTY

The annual meeting of the Portage County Medical Society was held at Stevens Point, December 31, when the following officers were elected: President, Dr. A.

E. MacMillan; vice president, Dr. D. N. Alcorn; secretary, Dr. W. F. Cowan; censors, Drs. D. F. Rice, D. N. Alcorn, E. H. Rogers. Dr. W. L. Rantz of Rosholt was admitted to membership. During the evening the eugenics law, autopsies and expert testimony were discussed.

RACINE COUNTY

The annual meeting of the Racine County Medical Society was held at the Hotel Racine, Racine, December 11, and the following officers elected: President, Dr. Emil Tompach; vice president, Dr. H. J. Brehm; secretary-treasurer, Dr. Susan Jones; censors, Drs. R. W. McCracken, G. W. Nott, W. S. Haven.

Dr. Charles Meyst of Burlington was admitted to membership. Drs. R. E. Rugh formerly of Lake Geneva and J. T. Corr formerly of Kenosha, were elected members by transfer cards.

Dr. John M. Beffel of Milwaukee gave an instructive address on the Eugenic Marriage Law. The discussions were freely entered into. Upon motion a rising vote of thanks was extended to Dr. Beffel for his presentation of this subject to our society. Dr. J. H. Hogan, in charge of Sunny Rest Sanitarium, gave an interesting talk regarding the institution. He said in part that the sanitarium was erected by Racine County to aid in the war of extermination against that dread disease—tuberculosis. It is located in the town of Mt. Pleasant, Racine County, about two and one-half miles southwest of the city of Racine, and within a mile of the station of Gatliff on the Chicago, Milwaukee and St. Paul Railway. The grounds comprise twenty acres. The capacity of the institution is limited at present to twenty-four beds. The sanitarium is under the control of a board of three trustees and is managed by a resident superintendent, who is a graduate nurse.

S. JONES, M. D., Secretary.

RICHLAND COUNTY

The following are the officers of the Richland County Medical Society for 1914: President, Dr. C. F. Daugherty; vice president, Dr. J. A. Booher; secretary, Dr. H. C. McCarthy; delegate, Dr. G. H. Benson; censors, Drs. H. C. McCarthy, C. T. Daugherty, G. R. Mitchell.

H. C. MCCARTHY, Secretary.

ROCK COUNTY

The Rock County Medical Society in annual meeting at Janesville December 30, elected the following officers for the ensuing year: President, Dr. J. W. Keithley, Beloit; vice president, Dr. G. C. Wanfle, Janesville, secretary, Dr. Fred E. Sutherland, Janesville.

WAUKESHA COUNTY

The annual meeting of the Waukesha County Medical Society was held on December 12, at the residence of Dr. W. S. Wing, Oconomowoc. Fifteen members were present. The election of officers resulted in Dr. W. S. Wing being chosen president; Dr. Fred Woodhead of Merton, vice president, and Dr. S. B. Ackley of Waukesha, secretary-treasurer.

WALWORTH COUNTY

After the usual good dinner at the Elkhorn Hotel, the Walworth County Medical Society held its annual meeting in the Court House, Elkhorn, on Dec. 17, 1913. Vice president Fucik in the chair.

The Secretary-treasurer's report shows a small balance in the treasury and an active membership of twenty-three.

Three applications for membership were read and referred to the Board of Censors, and one application for affiliation by transfer was refused. The Censors were directed, to require, in future, the license to accompany the application for membership.

The harmonious course of our meeting received a severe jolt when, under the order of election of officers, for reasons that seemed good to himself, our efficient secretary for nine years, Dr. M. V. Dewire, refused, and persisted in refusing, a re-election. The Society knows that whatever success it has achieved has been due mainly to his efforts in the furtherance of its interests; and it was with sincere regret that it was obliged to acquiesce in his decision. Dr. Dewire then read a resume of the present condition of the Society, a copy of which, by vote of the Society, was ordered to be sent to the Wisconsin Medical Journal.

The officers elected were: President, Dr. Edw. J. Fucik, Williams Bay; vice president, Dr. Arthur E. Midgley, Whitewater; secretary-treasurer, Dr. Edward Kinne, Elkhorn; censor, Dr. Geo. H. Young, Elkhorn; delegate, Dr. M. V. Dewire, Sharon; alternate, Dr. O. S. Canright, E. Troy.

Resolutions appreciative of Dr. Dewire's faithful work as secretary were passed; and it was voted that the Society defray his expenses as delegate to the Oshkosh meeting in 1914.

After some discussion of fees, the new Marriage Laws, and the Principles of Medical Ethics as applied to a half column professional advertisement that recently appeared in a local paper, the meeting adjourned.

EDWARD KINNE, M. D., Secretary.

Secretary's report of condition of Walworth County Society, Dec. 17, 1913. We were able to report twenty-seven members in good standing on the first of last April. Since then two new members have been taken in and one old one reinstated, making a total of thirty members for the year. This is about the average for Walworth county.

But time and circumstances have made a sad hole in that membership. Early in the summer we learned that Dr. Lloyd E. Matter of Lake Geneva was critically ill of general tuberculosis and was in a Sanitarium in California, making a gallant fight for his life. No reports have reached me recently as to his condition, but let us hope that his fight will be as successful as he could have wished it to be in any of the many patients he so cheerfully cared for during his stay in Lake Geneva.

Then, on the morning of July 2nd, we were shocked to learn of the sudden death of Dr. F. J. Nicholson of Walworth, by the overturning of his auto. Coming as it did so soon after the death of his wife, and after getting well started in a good location and among hosts of

friends who deeply sympathized with him in his recent loss, it seemed a sad ending to a promising career.

Dr. Frederick Hyslop of Whitewater has given up his practice at that place and gone west. His present location is unknown to me but Whitewater's loss is a gain for some other community.

Dr. Ralph E. Rugh has removed from Lake Geneva to Racine where he hopes to find larger opportunities in his chosen field of surgery. His membership has been transferred to Racine County.

Dr. F. G. Parkhill has sought and found a location in a more congenial climate and is now located in Houston, Texas. He has been transferred to the Harris County, Texas, Society.

Dr. Fred W. Leeson of Sharon has removed to Beloit and has been transferred to the Rock County Society.

Dr. Ernest E. Leeson of Sharon has disposed of his drug store and practice at that place and has purchased a pharmacy at Yorkville, Ill., where he hopes to succeed in business without doing any country practice.

This leaves us with twenty-three at present. In the place of these men who have gone from the county we have several newcomers. From among these we must secure enough men to bring us back to the normal membership of thirty for Walworth county. All of these have received urgent invitations to join the society and a blank application for membership from the secretary. We must make an earnest effort to get them in this year to keep our record good.

This gentleman concludes nine years of service for your present secretary. Whether it has been faithful or not he leaves you to judge. But he earnestly requests you to elect some one else to fill his place for the coming year or years. Living as he does in the extreme corner of the county and with a business that keeps him pretty close at home to attend to it, and with many other things to occupy his spare moments outside of his profession he does not feel that he can do the work justice. Besides this it is a well known fact that good things, in order to be fully appreciated should be shared and your present secretary feels that it is high time that some one else enjoyed the work for a while. I wish also to thank the individual members of the society for the cordial help and co-operation that has been given me in making whatever of success the Society has enjoyed.

CLINICAL MEETING AT MARSHFIELD

On December 9th the Staff of St. Joseph's Hospital, Marshfield, held the first of a series of Clinical Meetings. The physicians of the surrounding country, numbering in all over one hundred, were invited. The aim was to create a feeling of good fellowship, to get more thoroughly acquainted, and to learn from each other as to their experiences. A good percentage of those invited responded and if the enthusiasm that was displayed at the time was a criterion as to whether the meeting was a success or not, the originators of the idea of holding these "Clinical Days" have reason to be well satisfied. No operative work had been scheduled but

the entire forenoon and a good part of the afternoon were taken up by operations performed by members of the Staff. The clinical work commenced at three o'clock in the afternoon when various cases were presented. Dr. H. H. Milbee showed a case of severe torticollis and one of ulceration of the rectum, Dr. Wahle a case of skin grafting and one of pleural empyema, Dr. Ross a very severe case of acne, Dr. J. B. Vedder a case of chronic diffuse nephritis with marked ascites, Dr. V. A. Mason a case of abortion through the rectum, and Dr. K. W. Doege showed a case of bilateral diabetic gangrene and one of congenital hydrocephalus.

Interesting pathological specimens were shown. Among these was a spleen weighing six and one-half pounds which had been removed for polycythemia and a hair tumor weighing one and one-half pounds which had been removed from the stomach.

After the clinic an elaborate luncheon and smoker was held at the hospital. A good social chat occurred at this time and the various physicians became better acquainted.

At seven o'clock very interesting papers were read and discussed. The first was by Dr. Daniel Hopkinson of Milwaukee on "Faulty Laboratory Diagnosis". This was followed by Dr. Frank Smithies of Chicago on "Differential Diagnosis of Diseases with Stomach Symptoms". The last paper was by Dr. H. L. Ulrich of Minneapolis on "Original Work in Hay Fever". All the papers were of the highest type and secured great praise for their authors.

Committee,

DR. KARL DOEGE,

DR. V. A. MASON.

ABSTRACTS

ON GUMMATOUS PAPANITIS AFTER INJECTION OF SALVARSAN. Kumagai, N. (From the eye clinic of Prof. Komoto in the University of Tokio. *Archiv für Augenheilkunde*, 75, p. 103.) Gummatous papillitis is such a rare affection that K. quotes in abstract that the 2 cases so far published by Scheidemann and Gutman, and reports the following: A peasant, aged 31, had a chancre and bubos in the middle of September, 1911, and when admitted to the hospital on October 20th, received an injection of salvarsan. On Nov. 21, he left the hospital cured without visual disturbance. Towards the end of November, i. e., after about 1½ months, the sight of his right eye became hazy. This increased from about January 20th so that he could see only motion of hand when he came to the clinic. K. found dustlike opacities of the vitreous, a yellow greyish white soft mass on the very prominent disc (8 D.), the surrounding retina opaque, swollen like a wall with ill-defined irregular borders from yellowish radial foci, and streaky hemorrhages. The vessels on the disc were invisible and reappeared near the border, the veins were ectatic and tortuous, the arteries very narrow or invisible. The remaining retina seemed somewhat opaque, probably from the hazy vitreous, but showed no hemorrhages or foci. The visual field was concentrically very much

contracted. After subcutaneous injections of oxycyanide of mercury and iodide of potash the swelling of the disc rapidly subsided and, on March 25th, the patient counted fingers at 5 m.

On account of the lack of anatomical proof K. assumed a gummatous inflammation for the following reasons: 1. The unilateral affection spoke against an ordinary choked disc, which is generally bilateral. 2. The complete absence of cerebral symptoms shows that the disease was not initiated from the cranial cavity. 3. The opacity of the vitreous spoke more for an intrabulbar optic neuritis. 4. The lack of exophthalmus and disturbances of motility excluded an intraorbital new formation. After discussing the anatomical changes described by Stock, Verhoeff, and others, K. concludes that the syphilitic inflammation was localized in the disc and not a sequel to a primary affection of the stem of the optic nerve.

With regard to the occurrence of the affection of the optic disc after the injection of salvarsan, K. considers this as a symptom of multiple neuritis of tertiary syphilitic nature, localized as gummatous inflammation at the entrance of the optic nerve. This view was strengthened by his recent observation of a diffuse gummatous optic neuritis in an enucleated eyeball after an injection of salvarsan. He thinks it probable that salvarsan has a oversensitiveness, and to provoke severe syphilitic symptoms.

C. ZIMMERMANN.

TREATMENT OF SPRING CATARRH WITH RADIUM. Schmandigel, Otto, Frankfurt, (Klin. Mon. für Aug., 50, II, November, 1912, p. 620), reports a case of the very severe palpebral type of spring catarrh in a girl, aged 16. Repeated excisions of the proliferations relieved the subjective ailments, cauterization aggravated the condition, and medicinal treatment utterly failed. In spite of the deterioration, which increased every year in intensity and duration, exposure to 0.001 radium bromide in ebonite capsule cured the affection in 5 sittings at about 25

NEURITIS AND IRIDOCYCLITIS IN DIABETES INSIPIDUS. Stoewer, P., Witten, (Klin. Mon. für Aug., II, Nov., 1912, p. 624). Eye affections in diabetes insipidus, which is frequently caused by tuberculosis or luetic diseases of the brain, may be due to these. There are, however, also cases of genuine diabetes insipidus, without organic lesions, which may perhaps be considered as a vasomotor affection of the kidneys, elicited occasionally solely by nervous hysterical conditions. S. reports such a case in a miner, aged 23, with the following ocular changes: Ciliary injection, abundant deposits on Decemet's membrane, optic neuritis, V. R. 6-24, V. L. 6-35. Visual field slightly contracted for white, very much for colors. The ocular affections and the polyuria healed under mydriatics and subcutaneous injections of strychnia, so that S. assumed a connection between both. Toxic products of metabolism most probably played a part in the etiology.

C. ZIMMERMANN.

GLARING BY THE SUN. Cords, Richard, (From the eyeclinic of Prof. H. Kuhnt in the University of Bonn. Zeitschrift für Aug., 27, June, 1912, p. 511), reports

the clinical histories of 2 out of 32 cases of ocular affection from observing the eclipse of the sun, on April 17th, 1912, between 12 to 2 P. M., with a complete review of literature from 1875 to 1911. According to the subjective symptoms C. distinguishes 3 groups: 1. Secondary images, which disappeared at the latest the next morning. 2. Typical visual disturbances (positive central scotomas); a) without changes at the macula, b) with changes at the macula. 3. Atypical cases.

Many of the patients saw yellow or, in the dark, blue spots in the afternoon. Without exception these disappeared the next morning. In 4 more severe cases a distinct light focus, an optogram in the sense of Dufour, was present. In one case, e. g. it was round, whitish, of $\frac{1}{4}$ disc diameter, light pink in the center, surrounded by a red area, darker than the normal fovea. In all 14 cases that came later, there was either no anomaly of the fundus, or the region of the macula was strikingly dark brownish red, perhaps preceded by optograms. The most characteristic symptom in these cases was a central, seldom paracentral, positive scotoma, which as a round, rarely crescentic, more or less dark grey, shadow lay over objects and appeared directly after the eclipse or the next morning. It had a diameter of from $\frac{1}{2}$ to 1° , corresponding to an area of the retina of 0.1-0.3 mm. As faces 20 m. distant entirely fall into the area of the scotoma, the characteristic complaint was, that faces could not be recognized. Especially distressing was a peculiar oscillating or rotating motion in the scotoma. A ring scotoma, described by Jess, could not be observed in any of the cases. Vision was generally not very much impaired, as the patients read with relatively good seeing paracentral portion of the retina. V. fluctuated between 1 and 1-6. Nearby Jaeger 1 could mostly be read, but it was laborious, because the fixated letter disappears or becomes indistinct.

The prognosis must be guarded. Only those cases are favorable, in which ophthalmoscopic changes are absent in the first few days. In others the course greatly varies. While in some the positive scotoma subsides without restoration of the acuity of sight, others are molested by scintillating or the dark spot. Whether the therapeutic measures, (dark room, iodine, dry cupping, salve on forehead, dionin strychnin), have any influence on the process could not be determined. Individual differences could not be explained. The glaring pain varied. It decreased after repeatedly fixating intense lights. The color of hair, iris and fundus played no part. For obtaining a survey over the number of injuries, C. sent letters of inquiry to 131 oculists of the Rhenish province. 107 answers reported 387 cases of glaring by the sun. 166 of these were severe, i. e., showed macular changes, 184 slight, the others uncertain. In 2 the optic disc was pale. Wirtz reported a case of hemorrhage at the macula and severe neuritis. The number of cases out of a population of 7.5 millions was very high, and C. says that in future cases of unexplained amblyopia one has to think of a preceding glaring by the sun. Six colored plates illustrate the different affections of the fundus.

C. ZIMMERMANN.

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ORIGINAL ARTICLES

CLINICAL VALUE OF STOOL EXAMINATIONS.*

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MAYO CLINIC.

ROCHESTER, MINN.

It is quite generally acknowledged by clinicians that there should be more stool examinations in routine clinical work, and yet there seems to be a continued tendency to avoid this branch of laboratory technic.

It is not my purpose, in this paper, to go into the details of technic, since this subject is sufficiently covered in the various text-books. However, it is to be hoped that by emphasizing certain points the practical nature of the examination of feces may be seen, and that the possible diagnostic value of the procedure in any practitioner's hands may not be under estimated.

In less than three years about 2,000 stool examinations have been made in the Division of Bacteriology and Parasitology of the Mayo Clinic. A large proportion of patients in this series of cases were suffering from diarrhea due to various causes. In 511 of the cases parasites of some type were found. There were 135 tests for pancreatic function and many tests were made merely for occult blood; a large number of all tests were negative.

Preparation of Patients. The preparation of the patients for stool examination varies with the nature of the examination indicated. Schmidt¹ has suggested a diet to be fed patients before routine examinations. However, it does not seem entirely feasible rigidly to follow this. Schmidt's patients are instructed to eat five times a day instead of three, and the quantities of food are arranged accordingly.

If the stool is to be examined for digestive function a general mixed diet is ordered the day be-

fore, that is, a patient who has been on a restricted diet is ordered to eat a small amount of meat, potatoes, bread, butter, milk, etc. As a laxative, he is given one grain of calomel and five grains of phenolphthalein the night before the examination.

Before examining the stool for occult blood, the patient is kept on a meat-free and chlorophyll-free diet for 72 hours. No laxative is given but a normal stool is examined by the usual chemical methods.

The routine preparation before examining for parasites is important. There is no prescribed diet. On the morning of the stool examination, the patient takes one or more tablespoonfuls of Epsom salts before breakfast, then after eating comes to the laboratory for his stool. This is collected, free from urine if possible, in a vessel and examined at once.

EXAMINATIONS.

Digestive Function. In examining the stool for evidence as regards digestive function, the appearance is first noted: color, consistence, bulk, etc. A "pancreatic" stool is often described as a light yellow, bulky, frothy stool with an excessive amount of undigested fat as evidenced by the greasy appearance. For the detection of the presence of bile pigment, the Schmidt² test is reliable and easily performed. Bile derivatives are shown by adding saturate $HgCl_2$ to a small portion of the stool. Hydrobilirubin or urobilin is shown by the mixture turning pink. A green color indicates the presence of bilirubin. Neutral fats are shown by staining with Sudan III. Fatty acid crystals, starch granules, meat fibers, red-blood cells and pus cells are readily recognized microscopically.

For the functional activity of the pancreas there is no test absolutely specific. Up to the present time 135 Wohlgemuth³ tests have been made in the Mayo Clinic with somewhat varying results.

Briefly, this test is performed by weighing out 5 grams of stool, extracting 30 minutes with salt solution and centrifuging sharply 15 minutes or until sedimentation is complete. We have noted

*Read at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 2, 1913.

the ratio between supernatant fluid and sediment, and using this as a factor in the final estimate of units of diastase per grams solid matter. To be sure this makes the method roughly quantitative. After filtering the fluid portion, it is placed in test tubes as follows: 2 cc., 1 cc., $\frac{1}{2}$ cc. of filtrate, then in the next three tubes 2 cc., 1 cc., $\frac{1}{2}$ cc. of a one to ten dilution of filtrate and in the last three tubes 2 cc., 1 cc., $\frac{1}{2}$ cc. of a one to one hundred dilution of filtrate. Five cc. of a one per cent. soluble starch solution is added to each tube.* A small amount of toluol in each tube prevents bacterial action and incubation is carried on for 24 hours. The tubes are filled to the same level with tap-water, and a few drops of Lugol's solution added. The tube in which erythrodextrin is present is taken as marking the end reaction. One unit of diastase is arbitrarily considered as the amount which digests one cc. of 1 per cent. soluble starch. The number of units per cc. of stool is calculated, then, from the dilution of the tube containing erythrodextrin and the ratio of the fluid to solid matter in the stool extract. Wohlgenuth considers anything below 250 units as subnormal. The number of units in a normal stool may be several thousand.

The tests made in the Mayo Clinic will not be considered in detail in this discussion. I shall merely state that of those cases with less than 250 units of diastase, 23 per cent. showed involvement of the pancreas at operation, 15 per cent. not operated on were diagnosed as having pancreatic disease. However, there were 16 cases or 26 per cent. of those with less than 250 units of diastase operated on and no pathological conditions found in the pancreas. These 16 cases may be grouped as follows: Five cases of cancer of abdominal organs other than the pancreas, six cases of gall-stones or common duct involvement, one aneurism of the abdominal aorta, one pyloric obstruction, one lipoma of the mesentery of the jejunum, one chronic appendicitis, and one hypertrophic cirrhosis of the liver.

It is apparent, then, that the test is not of absolute diagnostic value, but shows merely the amount of pancreatic enzyme in the particular stool examined. A subnormal amount may be due to disease of the pancreas or conditions elsewhere indirectly influencing the amount of secretion reaching the alimentary canal.

*Use only Kahlbaum or Merck soluble starch for making this solution.

Occult Blood. The various tests for occult blood are all well known. Spectroscopic analysis, or the simple chemical tests can be carried out easily in any laboratory. We are studying the various tests in relation to the diagnosis of cancer and ulcer of the stomach and duodenum. At present there is nothing to add to former statistics. It is generally known that the benzidin test is extremely delicate for slight traces of blood, and that this may really be more of a diagnostic disadvantage than otherwise. The tincture of guaiac test made with an ethereal extract, while not positive when the altered blood is not very highly diluted, is accurate, and the technic so simple that there is no excuse for not making these observations.

Intestinal Parasites. The most important findings in stool examinations are those in connection with a search for intestinal parasites. The presence of ordinary worms is usually reported by the patients themselves, but a careful examination of the stool will at times show the presence of ova when the patient does not realize that he has a parasitic infection. Of the microscopic parasites, the protozoa are the most important from a pathologic point of view. The preparation of the patient has been described. It cannot be emphasized too strongly that the stool must be after a dose of Epsom salts, and that the examination be made at once, a warm stage being used on the microscope.

The flagellates are easily recognized by their rapid darting motion. *Trichomonas intestinalis* is a pear-shaped flagellate about 10 to 15 microns in length and moves forward in a peculiar rotary manner. A similar flagellate, *Cercomonas hominis*, is slightly smaller, more oval in shape, darts about the field but does not have the rotary motion. We have noted these protozoa 259 times in all, 195 times as the only organisms found, and 64 times in connection with other parasites.

Most text-books are inclined to attach little significance to flagellates as a cause of intestinal disturbance. However, it should be stated that their presence in great numbers is often associated with diarrhea. Another parasite of this group, the *Lambliia intestinalis*, has been observed by us 16 times altogether, 14 times in patients that had never been South. Stitt⁴ says: "This parasite is considered of little importance, but as it is responsible for a chronic and intractable diarrhea associated with mental and physical depression, it un-

doubtedly causes an affection only minor in importance to amebic infection."

It is usually believed that dysentery caused by ameba is a tropical disease, or at least confined to our southern states. However, there are so many reports of amebic dysentery in northern latitudes now that we cannot look on this disease other than as a universal infection.

There are two types of amebae found in the stool; one, *Entamoeba coli*, considered non-pathogenic, is usually round, sluggishly motile, clear ectoplasm, easily seen central nucleus. The pathogenic ameba, *Entamoeba histolytica*, is usually a little larger, is actively motile, pushing out long finger-like or lobose pseudopodia, has a distinct hyaline ectoplasm. *Entamoeba tetragena* has now been definitely identified with *Entamoeba histolytica*⁵. The nucleus is usually readily seen and is eccentric. In degenerating forms this is not so readily seen, and this fact gave rise to the idea that there were two types of pathogenic amebae. Red-blood cells are ingested and may be seen within the organism. They are digested and the greenish color of some of the amebae has been thought to be due to the hemoglobin from disintegrated red-blood cells. There is no doubt that we have both types of amebae in the North.

Up to September 1, 1913, amebae classified as *Entamoeba coli* had been observed in 176 cases in the Mayo Clinic. Only 17 of these were from the Southern states; 159 were from Northern states. *Entamoeba histolytica*, including those called tetragena, were found in 110 cases; 96 of this number were patients from the north and northwest. Of the pathogenic type, we have had 23 cases from Minnesota, 22 from Iowa, a number from the Dakotas and the Northwest. Four cases from Illinois and 6 from Wisconsin.

CASE REPORTS.

Case 1, 77273, male, aged 34, lives in LaCrosse, Wisconsin. Date of examination, Dec. 2, 1912. Was born in Norway; has lived in Norway, Wisconsin, and the Philippines. Usually drank deep well water. Patient contracted dysentery in the Philippines 11 years ago. Amebae were found at that time. He is losing weight; passes much blood and mucus. Has 6 to 18 bowel movements daily. Severe pain and tenderness all through the abdomen. Stool loose, brown and showed fresh blood. Microscopically, trichomonads, and many *Entamoebae histolyticae* were found.

Case 2, 54572, female, aged 33, lives in Wisconsin. Patient has never been south. Date of examination, June 15, 1911. Had diarrhoea four years previous to examination; four bowel movements daily. Since that time has had 2 to 3 movements daily. No blood nor mucus seen. Has acute right-sided pain. Examination of stools, June 16, 1911, showed cercomonads and *Entamoebae histolyticae* in great numbers. Ipecac treatment was advised, but a report from the patient received May 10, 1913, stated that the treatment was not carried out and the present symptoms indicate that she is suffering from amebic dysentery.

Case 3, 87465, male, aged 65. Farmer, lives in Wisconsin; was born in England, and has never been south. First examined, July 10, 1913. Drinks water from a drilled well. For the past 30 years has had attacks of diarrhea three to four times a year, with 8 to 12 bowel movements daily; blood and mucus in the stools. Has vague pain and tenderness all through the abdomen. No loss in weight. Examination showed loose, brown stool, red blood cells, cercomonads, and *Entamoebae histolyticae* (tetragena type). Treatment with salol coated ipecac pills was instituted, and kerosene enemata administered. Examination July 21, 1913, showed amebae still present. Another on July 29, 1913, was free from red blood cells and parasites.

Case 4, 60544, female, aged ... Farmer's daughter, has always lived in a small town in Minnesota, a few miles from Rochester. When first examined on Oct. 26, 1911, she had suffered for about one year with a continuous diarrhea, four or five bowel movements daily. She had been operated on for appendicitis 10 months previously. Had lost 26 pounds in weight and was extremely nervous. No blood seen in the stools, but mucus occasionally. Many actively motile amebae, tetragena type, were reported Oct. 26, 1911. Ipecac treatment has been carried out with only partial success. A report on Nov. 12, 1911, shows no parasites found. This was immediately following ipecac treatment, however. In reply to a letter of inquiry the patient states, on May 10, 1913, that she still has two to three stools a day with mucus, and at times suffers with abdominal pain. Her general health is much improved.

These are typical histories taken at random and show the type of cases in which these parasites are found. It should also be mentioned that we have had one patient who has never lived out of Minne-

sota in whom *Balantidium coli* was found. This is one of the infusoria, a typical genus of the order Heterotrichida, and has been frequently reported in the tropics as a cause of severe ulceration of the bowel, at times causing death.

In conclusion, I would make a plea for more consideration of the clinical value of a systematic stool examination. A simple technic is all that is necessary, or desirable, and the finding of a parasite that may possibly be the cause of an obstinate bowel disturbance will surely repay one for the time spent. We have been schooled to believe that amebic dysentery is a tropical or subtropical disease. To be sure we see it in its more severe forms in those climates where the resistance of the patient is lowered to all types of infection. Textbooks are published annually with antiquated ideas borrowed from previous publications, and erroneous ideas are thus perpetuated. We should realize that intestinal parasites in the North are of great importance, and that there are still many problems to be solved in the field of parasitology.

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DISCUSSION.

DR. D. HOPKINSON: Mr. President, it would seem that the cup of joy of the laboratory man is slopping over to-day if it were not for the chastisement of Dr. Townsend. But personally I believe the end justifies the means. It is not that we want more laboratory technique, not that we want newer tests, but we do want those tests that are known, to be applied. We do want men to know that there are many simple tests, and the tests that have been repeated here to-day are simple tests; a great many of them. There is no justification in the neglect of these if the patient is to be cared for as he should be cared for. No man should go out and practice medicine, and especially do we condemn the young man when he comes out, if he is not a laboratory man. If he is not a laboratory man he is not anything. He is not like Dr. Townsend, who has had years and years of clinical experience upon which undoubtedly, he can often rely. He cannot do that, and the majority of us are young men, and it is this that we must use. We have not got that clinical experience and we won't get

it for years and years, and if there is something in that chain of evidence that is just as reliable, why shouldn't we have it? And here is the place to get it. Here are men who have had hundreds and hundreds of cases to test it. Those men we must rely upon to give us evidence that is truthful, justified, and as correct as can be made by so large a number of cases. This paper of Dr. Sanford's is simply the same old story, that is, it has shown us that by systematic examination of the stool there is developed a knowledge of the existence of this amebic dysentery existing in the North, irrespective of whether an individual visited the South or not. It must be taken into consideration, and therefore many of these cases of tapeworm, round-worm, or any other form of dysentery, amebic, or otherwise, must necessarily demand an examination of the stool. There is more than one good surgeon who has operated for gallstones and appendicitis, and to his chagrin has found that he had to deal with a tapeworm, or some other form of worm in the intestinal tract; and if that man had known that such were the case, or had had a stool examination made, he would never have dug in there with a knife.

DR. TOWNSEND: Mr. Chairman; I did not wish to stir up any hornet's nest, nor did I wish to belittle laboratory or chemical methods, but so many things come into our lives as country practitioners as emergencies, when we have not time for a laboratory test, when we haven't time for these tests that have been doled out to us to-day. None of us who practise and keep up with the procession, desire to belittle these tests, because they have become part of our lives. But our troubles in the country are many times emergencies, when there is no time to get to the laboratory, when there is no time for tests. For instance, we are called to a woman whom we have never seen, in convulsions. We find that she is pregnant. We know that she has uremic poisoning. Have we any time to make any test before we apply the remedies for that case? No, no. So too, we find men with uremic poisoning falling on the street. Have we any time to diagnose by tests whether that man is suffering from apoplexy, from alcoholism or from Bright's disease? Of course as soon as we can we get a sample of the urine and find out whether there is a kidney trouble or not. No, I did not intend to stir up a hornet's nest, neither did I intend to belittle the new means of diagnosis; but I do know that country practitioners do their work as well as or even better than men in the city would do it, if they should come and sit down beside us.

DR. WARFIELD: Mr. President, it is interesting in this connection, brought up by Dr. Sanford's paper, that within the past year at the Milwaukee County Hospital we have had two cases of amebic dysentery due, as we think, to the *Entamoeba histolytica*; both of which were in men who had never been south of Wisconsin. One man was a native of this part of the state, another one came from Roumania, and in one case there was perforation of the lung, and also a large amebic abscess of the liver. I think this question is a very live one, and a very vital one, and it is exceedingly gratifying to me to have

Dr. Sanford bring this question before us. It is needless for me to say anything further than what I have said as to the value of laboratory examinations. These are not emergency cases, of course. These are cases in which we can take out time and make our diagnosis just as soon as we can, but not at once.

DR. SANFORD (Closing): I have nothing further to say except that amebic dysentery is necessarily a chronic affair and that the early recognition of the condition is going to result in the early relief of the condition.

OSSIFIED STYLO-HYOID LIGAMENT.— REPORT OF CASES.*

BY W. E. GROVE, M. D.,

MILWAUKEE.

With the refinements of our modern diagnostic methods, more especially, with the introduction of the X-ray, the number of cases is decreasing each year, which formerly, for the want of a clean cut diagnosis, we threw into that heterogeneous medical scrap heap known under the collective name of neurasthenia. So it proved to be with two cases which I wish to report to you to-night, both of which were very interesting and instructive to me, and, I hope their report may be equally valuable to you.

We know from our study of the embryo that the second visceral arch takes part in the formation of what has been called the "hyoid bar". The upper and lower portions of this cartilaginous bar are in the adult normally ossified, the lower portion forming a part of the body and the small cornu of the hyoid bone, the upper portion being converted into the intra- and extra-temporal parts of the styloid process of the temporal bone. The fibrous tissue of the intermediate portion of the hyoidean bar persists in the adult as the stylo-hyoid ligament. Now, our dissecting room experience teaches us that the bony styloid process of the temporal bone may quite often be considerably elongated. It is also not an infrequent occurrence to find a specially long inferior cornu of the hyoid bone. In fact, a completely ossified stylo-hyoid ligament is sometimes found in working over a large number of cadavers. Dwight¹ was able in 1907 to collect from the literature 19 cases in all, all of which were from anatomical specimens.

Indeed, when we call to mind the embryological

origin of this ligament it may surprise us that it is not more frequently ossified.

The fact that I have not been able to find anywhere any clinical reports of this condition or of the symptoms which it may entail may warrant a brief report of two cases of ossified stylo-hyoid ligament with the symptoms caused thereby. They are as follows:

CASE No. 1. For the privilege of examining this case I am indebted to Dr. A. J. Patek. This was the case of J. L., aged 54, a salesman who com-



Fig. 1.

plained of pain of a shooting spasmodic character, which he indefinitely localized somewhere in the region back of his larynx. These pains began some ten years ago and they have gradually increased in frequency and severity until at present they are almost unendurable. They are aggravated by flexing the head and bending it to the right and on swallowing, especially when swallowing in this position. With the exception of a slight granular pharyngitis and a papillary folding of the mucous membrane covering the interarytenoid region of the larynx the condition of his nose and throat was negative. His general health was good. His chest findings were negative but he was of a very neurotic type. Thinking that we might be dealing here with a referred pain of some sort I explored his trachea to the bifurcation and his oesophagus to the cardia but found them both normal. An X-ray examination was then made of the neck region by Dr. Blaine and revealed the condition which you will see a little later on the plate. (Fig. 1, a.) The right stylo-hyoid ligament was completely ossified. This patient was subsequently operated upon and

*Read before the Milwaukee Medical Society, Jan. 13, 1914.

the lower portion of the ossified ligament was removed. He was entirely free from pain for about two months after the operation after which time it gradually returned though with less intensity. At a second operation done a few weeks ago some adhesions were loosened up and some fibrous tissue occupying the position of the bone removed was taken out, since which time the patient has again been free from pain.

CASE No. 2 is that of H. M., a clergyman, aged 41, who came to me complaining that for the last four months he had been annoyed by a feeling in the left side of his throat as of a foreign body which he wanted to swallow or cough up but could not. This sensation was not aggravated by swallowing, in fact it felt better after eating and was not influenced any by the use of the voice. It was gradually getting worse. The patient's general health was good and he was not neurotic by nature. The local examination revealed what appeared to be a pair of simple hypertrophied tonsils whose removal



Fig. II.

I advised. The left tonsil was larger than the right and projected more into the throat. These tonsils were completely removed by dissection and after about two months the pain and irritation of the throat had entirely disappeared but about this time the patient returned to me saying there was a lump in his throat at the site of the enucleated left tonsil. On palpating the left tonsillar fossa I felt a hard bony mass projecting into the floor of the fossa and coming apparently from externally and above. An X-ray examination of this patient made by Mr. Janssen revealed a similar condition to that which obtained in Case No. 1, with this difference that in

Case No. 2 the stylo-hyoid ligament was ossified in sections and not completely from end to end. This you can make out in the plate. (Fig. 2, a.)

Ossification of the stylo-hyoid ligament has occasionally been found in anatomical specimens and reported but as far as I can find in a survey of the literature on this subject these are the only cases of ossified stylo-hyoid ligament diagnosed as such in the living. Abnormally long styloid processes have not infrequently been reported and the symptoms depending on their presence described. As early as 1870 Lücke¹ reported two young women of 20 and 30 respectively in whom painful deglutition was present and in whom he discovered by palpation an abnormally long styloid process reaching down into the tonsillar fossa and crowding the tonsil into the throat. Richardson² and Kyle³ have reported similar cases. However, it must not be supposed in every case in which we find areas of cartilage or bone in an excised tonsil that we have cut through the tip of an elongated styloid process for the papers of Imhofer⁴, Nösske⁵, Walsham⁶, Wingrave⁷, Schweitzer⁸, Zuckerkandl⁹, Reitmann¹⁰, and Töpfer¹¹ have very definitely shown that we may at all ages find in the tonsil and near its capsule areas of cartilage and bone which bear absolutely no relation to the styloid process.

The diagnosis of this condition in these two patients in a comparatively short period of time might indicate that the condition is more frequent than we imagine and it should surely be considered in connection with any unexplained pain or other signs of irritation in the region of distribution of the glossopharyngeal nerve. It is just as conceivable to me that we might have nerve compression or nerve stretching symptoms in connection with a stylo-hyoid ossification as in connection with a supernumerary cervical rib.

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THE DEGENERATE GIRL.

BY CARRIE A. FROST, M. D.,

ASSISTANT PHYSICIAN TO STATE HOME FOR FEEBLE
MINDED CHILDREN.

CHIPPEWA FALLS, WIS.

The intelligent farmer of today, in growing a product that will yield him the greatest returns, has learned to select his seed for planting from the pedigreed kinds. These kinds bring him the most money in his market values, the rank being determined not alone by the quantity of yield, but by the quality as well. Again, take it in the animal kingdom, the horse has long had a pedigree and only those which were ranked high were considered fit for propagation. In this day, too, the cow or the pig which is of full blood, ranks by far the highest; and the inbreeding of the sheep, in order to keep up the strain, is closely watched. The exchange of cockerels among those who breed fowls often brings about a better and purer flock and one more nearly fitted to the requirements desired.

It remains for man alone, in his sublime conceit to think he can set aside the laws of nature and produce a good strain out of a poor, or which is perhaps more nearly the case, in his lack of self-control, he defies the laws of nature and satisfies his desire of lust to the fullest extent. It is this same lack of control which makes the families of the mental defectives more prolific in the propagation of their kind than the normal family. For it is true that the lower the strata from which a family comes the greater number of members there are in the family as a usual thing. They again are entirely ignorant of any responsibility resting upon themselves in the matter. I can cite an instance of the parents of two of our children who have twenty-two living children. Fortunately for the State of Wisconsin, the family has moved to Missouri, but that state was so glad to be rid of one of these children who had been committed to our Institution before the family moved away, that when he followed the family by eloping from our "Home", they gladly paid the salary and expense of sheriff and himself to get him back to us. It is true, too, of the lower grade classes that if they are not allowed to satisfy their passion legally, they will do it illegally and only segregation can keep them from populating the world with the grade of their

own mentality. This becomes all the greater tragedy to us, who fully realize the recognized law of increase among the mental defectives. This law, as stated by Doctor W. E. Fernald, is—"Where both parents are mentally defective, all the children will be mentally defective. Where one parent is normal and the other mentally defective, one-half of the children will be mentally defective." The normal ones may in turn give birth to mental defectives, unless they have mated with a stock of higher grade than their own. Under the latter circumstances, it can be avoided. Among the lower grades, however, the selection of a mate is apt to be more accidental than intelligent, so it leaves little to be gained from a supposedly higher grade of stock. Thus can water rise no higher than its source. True of the human tide, just as surely as it is of the physical.

We have long since gotten past the idea, where we think every human being should be a parent, or that an all-wise Creator intended them to be. We only have to turn to nature to see the prodigality of the seed in proportion to the adult plants. Not every acorn becomes an oak. So you and I, unless we are physically and mentally fit, should not become parents. We have no right to stamp our defects upon another generation, yes, even to the third and fourth. It is much better that we live out our physical life in steady useful employment, within the limit of our capabilities, wherein we will be contented and happy, and leave to those more capable, the privilege of becoming parents. This so-called "liberty of the individual", which we, as a nation, are so prone to put on a pedestal and worship as a god, may become so top-heavy as to fall over and crush out some of our free institutions. When the individual, with no thought of responsibility for himself, imposes on the next generation, the care and burden of the outcome of his freedom in action, then liberty ceases to be a virtue, and becomes a tyrant.

The degenerate girl, through this same lack of control, becomes the greatest menace to society, i. e., by the reproduction of her kind. We are not placing any responsibility, for a person cannot be held responsible, when she has not been given a mind capable of understanding the conditions. But again, neither should they be given unlicensed freedom. Society could put up with their inability of self-support, their selfish thought of satisfying their own desires, their uncontrolled tempers, their indolence, even their indecency which the papers

*Read at the Annual Meeting of the Society of Wisconsin Medical Women, Milwaukee, Sept. 30, 1913.

of every large city depicts, if, when their life ceased, that were the end. But to have it carried on indefinitely, makes anyone who has a shred of thought for the future rise up and protest.

For fear you may think these statements overdrawn, let me give you a few histories of cases which have come under my care.

M. M. was sent to our institution August, 1904, from the Wisconsin Industrial School for Girls at Milwaukee. Age 16. A large, well-formed girl. Gave history in Industrial School of being vulgar, indolent, untruthful, and at times destructive, especially when in bad temper. Since being in this institution, letters which she has tried to pass to boys having been intercepted, were found to express some or all of these traits. Once, in particular, she planned to escape in boy's clothing with one of the boys. They were to go to St. Paul and be married. In July, 1912, she did escape, wandered to a camp, north of Stanley, and was found there by her matron, about a week later. She became pregnant, and has since given birth to a living female child. This child is now five months old, soon to be weaned and transferred to Sparta. Her affection for her child has kept her contented. When the child is gone, she again will be restless and must be closely watched, or there will be a reenactment of the same condition.

Mary S., a good looking, well formed woman, with no physical defects. Age 39. To see her passing on the street, you would think her normal. She works in the kitchen, where she shows a tendency to extravagance and wastefulness. A good worker, when well supervised. She came to the institution at the age of 25. Previous to coming she had given birth to three illegitimate children, and was then pregnant. She has been in our institution something over twelve years. One would expect improvement in that time if it were going to come. Yet, within the past two months a letter was intercepted from her to an epileptic boy, on the other side, signed: "Your loving wife." Her trial for release is pending, and if the court sees fit to release her, we have no doubt but that some state will have her again within its care—perhaps with an added burden in the shape of more children.

M. T. was adopted into a family at the age of 12. During puberty it was claimed that she was a nympho-maniac. At the age of 15 she became pregnant, through the act of her foster-father. After birth of child, suffered from puerperal mania,

and was sent to Mendota. She was released after six months treatment, when she again became pregnant by same means. It was when she was about five months along in this pregnancy that she was committed to the "Home". Age at that time past 17. This labor was easy, and no derangement of mind followed. Her child was of average size and well nourished when born, but it died when three months old from marasmus. While the child was pretty she showed a fondness for it. When it became poor and ill-nourished, she neglected it. The opposite of the true mother spirit. In the last year and a half she has attended school, where she ranked as second grade. In industrial work she showed an aptitude, which would, with further training fit her for the work of a servant. In mentality, her weak ill-power would make her like wax in any one's hands. In June, her brother, through ill advice, took up her case, and had her released. Should she fall in the hands of her foster-father again, we can readily foresee the outcome.

L. I. J. is the child of poor farmers. Older brother feeble-minded. Father's mother and a grandfather insane. Came to us when 18 years old, pregnant. This was her second pregnancy. When pregnant first time, some doctor was found who performed delivery at 8th month with results that child died. She became pregnant again within a year. It is said a brother and sister of adjoining farms traded sisters, with results that both girls became pregnant. The second child is now at Sparta. She showed a fondness for child about equal to normal mother. She is a good worker, energetic when supervised, does fancy-work moderately well, very quick tempered, and must be watched to keep her at her work.

Maud M. is one of seven children, three of whom are in our institution. She came to us from the Industrial School for Girls at Milwaukee, where she was committed at age of 13, because she kept lewd company, was incorrigible and vicious. While in our institution, she feigned pregnancy, so she might get to Eau Claire where she thought there would be more chance for escape. Again, while out with another girl, they stopped three men and told them they would go away with them if they could evade the attendant. In school attainments she reads poorly in first reader. She is neither truthful or trustful, is passionate and vulgar. The brother, also in the institution, uses tobacco excessively, gives a history of not being able to learn in

school and although 16 years of age, has never worked. A younger sister, May M. came to us at age of 24 in pregnant condition. The child from this pregnancy, was first taken care of by a sister. The mother, i. e., our childrens' mother, then asked to have it sent to the County Home at Milwaukee. Mr. Dysart, pronounced it incompetent. Both of these girls are indolent and untrustworthy. The mother is a moral imbecile.

P. W., physically, a large, strong girl. A good worker, if supervised. Gives history of slowness in learning in school and of vicious moral habits for which, we judge, she was sent to the Wisconsin Industrial School at Milwaukee. From here, let out on parole. She came to us in 1907. Age 21. The immediate cause of her commitment was the destruction of her new born babe at the Omaha depot in the City of Chippewa Falls. When questioned by examining physicians, she seemed to have no conception of the crime she had committed.

M. X., came to the Home at age of 23. Previously had had one illegitimate child. Gave history of epilepsy. This showed itself while in the Institution in psychical storms rather than real convulsions. These attacks made her so irritable that the matron and attendant had difficulty in controlling her, as well as other inmates in getting along with her. She was released May 24th, 1913, and since then rumor relates that she left the family to whom she first went under a "cloud". She got employment in Eau Claire Asylum, and was discharged, also left the Chippewa Asylum because she would not keep agreements. It is said her mother, who was instrumental in getting her released, finally sent her money so she might return to this city. Not a very good showing, so far, for earning her own living.

I could give you many more histories, and as proof, that these are not isolated ones, will mention three or four briefly.

L. M., whose parents and one sister, perhaps two, were mentally unsound, has had five illegitimate children.

A. J., unmarried, has had six children.

A. W., was pregnant three or four times before marriage. After marriage refused to keep house although she can do almost any kind of work well. Hysterical, lazy and immoral.

H. W., claims to have had nine children by several husbands, but no surety of marriage to any of them.

To the right-minded person, there can be no

question, that these people should not be allowed at large. They can be happy, contented, and useful in the institution, and only there can they be kept from bringing suffering and sorrow upon themselves as well as others.

ETHICS IN THE PRACTICE OF MEDICINE.*

BY HARRY P. BOWEN, B. SCL., M. D.,

JOHNSON CREEK.

It is, I assure you, with pleasure that I appear before you, the Jefferson County Medical Society. When requested by our Secretary to present a paper at this meeting, I decided to present to you a topic that as yet I have not heard presented before our Society and one that in my opinion is of vital importance to every individual possessing an M. D. degree and practicing his profession on a semi-ignorant and unsuspecting public, so far as their knowledge of our profession is concerned. In no other profession does there exist so wide and so deep a gulf of ignorance as exists between the laity and the apt, honest and conscientious medical practitioner. The penalty for trespassing upon this gulf of ignorance is life, which is so valuable and so sacred. For this reason, I hold that ours is the greatest of all professions, but if ours be the honor of being the greatest of all professions then our crimes are the greater when we err through greed, through graft, through malice or through ignorance, for we are then trifling with Life, which we have no power to create, and preying upon our innocent patient, who has placed his implicit faith in us for the restoration of his health, which by instinct is so dear to every living being.

The practice of medicine is a profession. In choosing this profession an individual assumes obligations, which should not be of his own making, obligations to conduct himself in accordance with the ideals of the profession. Nevertheless it is a regrettable fact that we have in our profession many who care naught for the sacred trust that has been imposed upon them, or if they ever did care have lost sight of it in their greed for gold, or in their faculty for lying to defend their ignorance, thereby lowering the standing of themselves and their fellow practitioners. Oh, how much easier, and

*Read before the Jefferson County Medical Society, July 10, 1913.

how much more pleasant and how much more honorable it would be to live our lives as physicians and surgeons if we all, from the day we enter upon our medical career, would keep in mind the high and noble ideals of our profession and live up to these ideals forever and a day. But no, we must admit with no little degree of shame that many have fallen by the wayside, some have fallen voluntarily to commercialize our profession, others have fallen that they may be able to compete with those who have gone before them. As an instance of this failing I wish to refer you to a letter from a surgeon in Upper Michigan, a copy of which appears in the May issue of the Wisconsin Medical Journal.

Yes, this is a real condition and practiced by men in the city referred to, not because their surgery is of the \$25.00 order, though many of my fellow practitioners may take issue with me on this assertion, not because their patients can afford no more, not for charity but solely to get the work and outnumber their neighboring surgeons, in operations, and create a cheap Rochester. Well may the patient say who becomes the victim of such surgery, "Into thy hands, Oh, Lord, I commend my spirit and into the hands of cheap surgeons my physical being." I happen to know that the surgeons implied do not need the money, nevertheless they are commercializing our profession and handicapping honest competition which will ultimately result in dragging their neighboring practitioner down to their level and ultimately and justly lose the faith of the people. Whither are we drifting?

Since the year 1900, wages, salaries, the cost of living and prices along all lines have advanced from 50 to 100% while medical and surgical fees are practically the same or slightly lower. Is it right? Does the fault lie within or without the medical profession? Do our fees dignify or commercialize the profession? I do know of physicians making calls 10 miles out over unfavorable roads for \$3.00. I do know that a liveryman would not make the same drive for less. Wherein lies the professionalism? I do know that a very reputable and able physician made a thorough examination and diagnosis and put up two bottles of medicine for the large sum of 50 cents. The patient who paid this exorbitant fee thought it very unprofessional and also unbusinesslike. Was it? I do know of M. D.'s I will not call them physicians, writing prescriptions for 10 and 15 cents. Do I advocate or believe in exorbitant fees? Most assurdy, no. Do

I advocate or believe that the poverty stricken should pay a full fee? Thrice, no. But I do believe that a man upon whom the degree of M. D. has been conferred should live up to the standards of the profession and that it is unprofessional for a physician to dispose of his services under conditions which interfere with reasonable competition. That which does interfere is the competition of greed, ignorance or forgetfulness, and not that of fair play. It is exactly the competition which is detrimental to the public and to the individual physician, and lowers the dignity of the profession. Competing with a liveryman or merely charging drug fees can never be termed professional and demand the respect and confidence of the thinking public.

Next, of vital importance, what interests me in the ethical line is honesty to the people, your patients. I hold it to be a grievous offense to defend one's ignorance by falsity. To take the unsuspecting and defenseless individual who comes to you with implicit faith and confidence for the restoration of that which he holds so dear and when you know that you do not know his trouble, or when you know that you do know, to tell the patient and his relatives that all will be well if he takes your line of treatment when you know that it is an impossibility. These things are being done every day. I recall a case that I was called to see. The patient had been ailing for some time and during this time had been treated by at least three physicians all of whom told her and her family that they could cure the condition under their particular line of treatment. The people were poverty stricken yet all members of the family were being deceived. I found the patient with a tumor mass about half the size of one's head in the region of the gall bladder with all symptoms of carcinoma. I made the one call and told the more important members of the family that it would be an impossibility for me to cure the condition. that I would be willing to render any assistance in relieving any sufferings of the patient for the short time she had to live, or that if they still believed that she could be cured to call back any of the physicians, who had previously treated her and have them try further, but that they would be only wasting that which they did not have.

I heard no more of the case until ten days later when the daughter came in for a death certificate. Have not many of you had similar experiences? Why this dishonesty?

I have in mind another case that has come to me recently. Dr. A. was called to see Mrs. Smith in 1909 and his diagnosis was uterine fibroma. After treating along the conservative line for some time without satisfaction he decided that it would be best for the patient to have the fibroma removed by operative procedure and so told the patient. The patient was very much opposed to an operation and went to see Dr. B. who gave her the same advice as Dr. A. She then went to see Dr. C. and he only corroborated the previous advice. Now this patient was not looking for the best advice, she was looking for some one possessing an M. D. degree, who would agree with her. "Seek and ye shall find," she found him, Dr. Pleasu. Now she calleth together her friends and her neighbors and there was rejoicing, for she had found her savior. He told her an operation was not advisable and under no circumstances to have one, hence she proclaimed him the man of the hour and nature to prove his assertions, with the aid of tonics has permitted this woman to go on for over three years or until last November without a great amount of trouble, other than what she termed quite a profuse menstruation every three weeks instead of four, as was her nature previous to her trouble. She has flowed, more or less, all winter, but with the aid of an augmented determination and the influence of the expert advice of her savior of 1909 so impressed upon her she considered it nothing abnormal until about June 1. of this year, when I was called and found her nearly exsanguinated. Under the influence of local and general treatment her condition is but little better. Though I have repeatedly told her and hers that there is no possibility of her fibroid mass of approximately 15 pounds passing away when she reaches the climacteric, as she was previously told—she is now 50—of course I take into consideration that the mass may not have been so large when she received this advice, though she says it was, though I have told her the danger of a severe hemorrhage or hemorrhages, though I have told her that she cannot become strong, though I have told her of the possibility of a malignancy developing, with her inherent prejudice against operations backed by the advice of her savior she has determined to fight it out. To corroborate my diagnosis and prognosis I called in Dr. Eck of Lake Mills and though he fully explained the situation to her he was unable to convince her of the right. The prognosis under the circumstances is

quite evident and who is to blame? A physician. The wages of sin and ignorance is death. I hold the maxim, "Honesty is the best policy," in the practice of medicine.

When I entered into the practice of medicine I vowed that I would never say anything against a fellow practitioner or do anything that would hurt him in his chosen profession but I must make exception in the case of a practitioner whom I find crooked and deceiving his innocent people. It is my belief that such should be exposed and prevented as much as possible from carrying to a great extent their nefarious methods. Graft, greed and crookedness are all contagious and as it is the duty of the physician to quarantine and stamp out contagious disease so also should it be the duty of all honest physicians to stamp out all that is not honest and honorable in the practice of medicine for they are producing a commercial degeneration in the vital organs of our great profession. Quarantine them by putting your stamp of disapproval upon them. I believe that the cure for dishonesty in the medical profession lies in our county medical societies if they be up and doing and I also believe that every man who wishes to live up to the ideals of the profession should be a member of the county medical society. Of course his being a member will not necessarily mean that he is honest any more than a man's being a regular church goer signifies that he is honest, unless that county medical society is an active one and has an established code of morals to which every member must live up or forfeit his membership and unless that society denounces the detestable commercialism in the profession.

When a man enters into the field of his chosen profession he sees naught to the cloud but its silver lining but as he goes on his way with truth alone in his heart and finds that Mrs. Jones has entered the home of the sick lauding the virtues of Vinol for the cure of tuberculosis, that Mrs. Smith has entered another home and endeavors to prescribe her panacea Oppenkroiter, that Mrs. Brown has entered another home and by her constant nagging has converted a family from their belief in kaolin to her compound of onions and cabbage leaves, that Dr. So-and-So cures all diseases that man is heir to by plastering the back of his neck, that some of our supposedly honorable fellow practitioners take out their hammer and knock their fellow practitioner that they themselves may be lauded, then fades the silver lining and the courage of the

honest man is taxed to the limit lest he join the many who have gone before him to become a quack or a fakir and we unfortunately have so many of these that it is no great wonder that many people look with suspicion upon the medical profession and have in their libraries as a choice collection Jim Jam Jems with its affidavits against the leading men of what should be the irreproachable American Medical Association. They then judge the whole profession by what seems to be proven against leading officers, and not entirely unjustly do they do so. "The evil that men do lives after them, the good is often interred with their bones."

We are ever striving onward to perfection though often times we move too slowly and it is the purpose of my paper to spur the Jefferson County Medical Society on to the goal of professional idealism. It may be an impossible task to attain to ideal conditions but I do not believe it to be an impossible feat to put forth an organized effort in working toward that end. I look forward with great anticipation to the day when every physician in this county shall be a member of the Jefferson County Medical Society and to the day when the requirements for membership shall be absolute honesty and uprightness to the laity regardless of cost, and absolute honesty and uprightness between fellow practitioners; then make this universal and we shall have attained to the medical millenium.

AN IMPROVED TONSIL SNARE TIP.

BY ROLLA U. CAIRNS, M. D.,

RIVER FALLS.

Probably every man who has used a tonsil snare with a Vedder tip has had difficulty in keeping the wire in the groove of the tip. The guard of

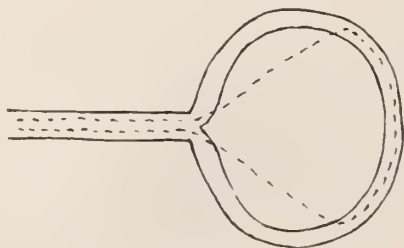


Fig. A.

the Vedder tip was designed to correspond to the opening in an ordinary tonsillotome and is an oval with the wire entering it from the side. In order to follow the groove of the guard it is neces-

sary for the wire to bend at nearly a right angle; with a spring wire this is impractical and consequently the wire usually crosses the opening of the guard as shown by the dotted line in drawing "A". The wire crossing the opening outside the groove of the guard is frequently caught by the tonsil as it is being drawn through the opening, the wire is pulled out of the groove and it is necessary to re-adjust the wire before the snare can be applied. To

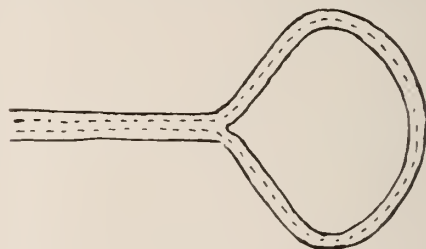


Fig. B.

obviate this I have a snare tip made on the general plan of the Vedder tip but modified the shape of the opening to more nearly conform to the natural bend of the wire. The sides of the opening next to the shank are straight and join the shank at an angle so that the wire readily lies within the groove all the way around the guard as shown by the dotted line in drawing "B" and there is no possibility of throwing the wire out of the groove while drawing the tonsil through the loop.

TUBERCULOSIS COLUMN

Under the auspices of the Committee on Prevention of Tuberculosis of the State Medical Society of Wisconsin; M. P. Ravenel, Madison; G. E. Seaman, Milwaukee; C. A. Harper, Madison; J. M. Bffel, Milwaukee; T. H. Hay, Stevens Point.

MORE DEAD THAN SICK?

Every physician or other person in the state is bound by state statute to report to the State Board of Health any case of tuberculosis of which he knows. Yet, in spite of this fact, only 1,205 cases of tuberculosis were reported in 1912. In the same year, 2,623 deaths occurred from tuberculosis. In other words, last year in Wisconsin there seemed to be two deaths from tuberculosis for every case of tuberculosis. That is, according to figures, there were 1,400 persons who died from consumption without having it. Ridiculous!

The truth is that neither physicians or other persons are obeying the law and reporting tuber-

culosis cases. The State Board of Health estimates that there are 12,500 cases of tuberculosis in Wisconsin today. Less than ten per cent. of these cases were registered.

Public welfare demands that tuberculosis be reported, so that it can be known where consumptives are, in order that they may be taken care of, and the public protected.

The writer confesses to some sympathy with the physician who fails to report his cases of tuberculosis under the notion that the only reason that reports are desired is to satisfy the curiosity of the statistician. However, statistics are not alone for statisticians! Under the new order, there is a growing sentiment that our government and particularly our public relief and hospital agencies shall be run with some idea of efficiency. These data are assuming immediate importance. In the campaign for county sanatoria it is important to have *evidence* to present to the county boards. Even politicians are being trained to consider *facts* and not sentimental twaddle or political considerations alone. If not so inclined, they are forced by *facts* which are insistently presented to them on all sides.

The registered patient (whose identity is, by law, kept confidential) then becomes, by the fact of his registration, a force for the institution of those relief and curative agencies which he so much needs, and which, had they been instituted a generation earlier, might have forestalled his own infection.

Under the new order the care of tuberculosis is losing much of its old time repugnance. Certain it is, that the great element of hope makes the telling of the patient easy. When every physician gets behind and pushes, there will be a great triumph which will redound to the everlasting glory of the medical profession.

BOOK REVIEWS

OPERATION FOR ARGYROSIS OF THE OCULAR CONJUNCTIVA. Komoto, Prof. Tokio. (Centralblatt für prakt. Aug., 37, May, 1913, p. 134). A man, aged 18, had been treated for a year with instillations of nitrate of silver and came to K. with intensely black ocular and palpebral conjunctivae. Since chemicals (sulfate of sodium) had no effect, K. removed a kidney-shaped piece of the ocular conjunctiva most exposed to view,

extending from the cornea to both ocular angles and the lower half, and transplanted a piece of ocular conjunctiva from the eye of another patient, that had to be enucleated, fixing it with a suture at the lower limbus, the lower margin of the wound and at each lateral angle. The cosmetic effect after 3 weeks was excellent.

C. ZIMMERMANN.

CASE HISTORIES IN PEDIATRICS. A collection of histories of actual patients selected to illustrate the diagnosis, prognosis and treatment of the diseases of infancy and childhood, with an introductory section on the normal development and physical examination of infants and children, by John Lovett Morse, A. M., M. D., Associate Professor of Pediatrics, Harvard Medical School; Associate Visiting Physician at the Infant's Hospital and at the Children's Hospital, Boston. Octavo, 640 pp., illustrated. Price \$5.50. W. M. Leonard, Publisher, Boston, Mass.

In the second edition. Dr. Morse's interesting work has been increased to double the size of the first edition by the addition of one hundred more case histories in order to cover the subject more fully. In addition to this an introductory section on the Normal Development and Physical Examination of Infants and Children appears in the new edition which rounds out the volume and gives it a completeness which will permit its use as a text book or as a single reference work in the library of the general practitioner.

The method of handling the subject in the form of a series of case histories adds greatly to the vividness with which each disease under consideration can be presented, and the completeness of the index makes easy the following up of any question in regard to which information may be sought.

Having in mind the importance of a thorough understanding of the principles underlying the feeding of infants it seems to the reviewer that in its next edition the addition of a section introductory to this subject, similar to the one already mentioned on the Normal Development and Physical Examination of Infants and Children, would further increase the value of this excellent work.

VISUAL SENSE. von Hess, Carl, München. Reprint from the Dictionary of the Natural Sciences edited by E. Korschelt, Linck, Oltmanns, Schaum, Simon, Verworn and Teichmann. Vol. IV. p. 1032-1059. Gustav Fischer, Jena. 1913. In this article of the dictionary C. von Hess gives in his well-known clear and concise fashion a splendid presentation of the most important facts concerning the visual sense, under the chapters: anatomy, dioptric apparatus, accommodation, anomalies of refraction, visual acuity, sense of space, binocular vision, disturbances of ocular movements, strabismus, light sense, color sense, color-blindness, theories of light and color senses. The essay is written in a most fascinating style, which will be read with pleasure.

C. ZIMMERMANN.

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EDITORIALS

CALL FOR PAPERS FOR NEXT MEETING.

To the Members of the State Medical Society

Owing to unforeseen circumstances, the chairman of the program committee has felt compelled to tender his resignation to the President. Dr. Sheldon has asked me to take the position. It is difficult for a member of the State Society to refuse any request of our President, who has done so much for all of us during the past twenty-five years. Relying on the co-operation of the members of the State Medical Society, to heartily assist me in getting up a good program, I am obeying the mandate of the president.

This notice is an appeal for volunteer papers. I should like, however, to build the program up about two main topics. First, Infections, and second, Fractures. The address in surgery and the address in medicine this year, will be given by able men, each of whom has devoted much time and investigation to his subject. The subject dealt with by each will be germane to the above topics. It may not be possible in building up such a program to accept all the volunteer papers, for remember, there are only twenty-four numbers or less on the entire program.

One thing noticeably deficient in our society almost always, has been the absence of frank, well studied discussions and criticisms of papers. The only way, it seems possible to overcome this is to publish the preliminary program at a very early

date, so that the members of the profession throughout the State may have time to carefully review their work, in whatever subject they have been especially interested, and then come prepared to join in the discussions at the State meeting.

I shall hope to publish the preliminary program in the April number of the Journal, and would therefore like to have all volunteer contributions sent to me, at least by title, before the first of April.

Yours very truly,

E. EVANS.

DEATH OF ST. BOOSTHEIMER.

The patron saint of the "Booster Club" was electrocuted by the council in the rooms of the Milwaukee Medical Society, January third, when his sponsor was elected secretary of the State Medical Society of Wisconsin. He was four years, three months and seven days of age. His career was a varied and checkered one. His birth was entirely illegitimate and his words and actions throughout life were always contrary to the accepted concepts of dignified and well-behaved medical society. That he was usually out of order we admit, but let us excuse this by mentioning his ardor. That he lacked caution, diplomacy, finesse, is true; but none will say that he lacked courage. We are sure that those he shocked far outnumbered those that loved him; but it is not true that shock is sometimes of therapeutic value? He cared not for family traditions and yet his life was spent in working for his family. He was a creature of impulse, a fancy, a whim, if you will, and yet his work was not with-

out forethought and he did it with enthusiasm. His death was peaceful and you will pardon us if we lay these few flowers on his grave.

It is difficult for a parent to pen the obituary of his child and so we ask your charity, for we loved him well—yes, with all his faults. We loved his frankness, his disregard of convention, his freedom, and we loved his enthusiasm; but the new mantle of office carries with it certain responsibilities and involves others equally responsible. It is a cloak that must be lined with a certain degree of dignity and trimmed with a certain amount of caution. If we sometimes think of our lost child we ask you to be generous even though the thought finds some hint of expression in our words. If we shock or offend we ask your forgiveness for we mean in the future to be proper and decorous. It is needless for us to say that we are very happy and very proud in our grief. But once before have we been as greatly honored—the day we became a Benedick.

Some years ago John T. McCutcheon, the cartoonist, left the "Tribune" office for a long vacation. The next morning "Briggs" published a cartoon in McCutcheon's space. It was the picture of a very large pair of shoes and a very little man gazing at them in great misgiving. It bore the caption "Big shoes for a small man to fill." We feel just as the small man did. We hope to keep all of our enthusiasm and we promise to give the very best there is in us, but our best efforts can never equal the quarter century of splendid unselfish service that has won for Charles S. Sheldon the love and respect of every member of the State Medical Society.

In assuming our new work we ask your counsel, help and advice. We ask that you write your criticisms as freely as your praise. We ask that every member of our society feel his individual responsibility to the organization and be ready to do his part. With high ideals of constructive work, with unselfish ambition for the elevation of the profession as a whole, with energy to fight for all that is right and against all that is wrong, we can make our organization second to none.

Now for 1914!

R. S.

THE WISCONSIN SURGICAL ASSOCIATION.

Early in January, at a meeting of about thirty medical men of the state and city, held at the

Blatz Hotel, Milwaukee, and presided over by Dr. A. H. Levings, it was decided that the time was ripe for the organization of an association of the surgeons of the State of Wisconsin, which should be called the Wisconsin State Surgical Association.

At that meeting a committee of seven was appointed to draw up a form of organization, the committee consisting of Drs. Levings, Lemon, H. M. Brown, Sayles, Hayes, Kreutzer and Quick.

The work of the committee having been completed, and a list of prospective members having been made, a meeting was called on the sixth day of February, at the Club Room of the Pfister Hotel, Milwaukee. At this meeting there were representatives from every part of the State and a form of the association was adopted having the character of articles of incorporation, as of a corporation without capital stock.

With the exception of a few changes as to qualifications as to membership and the number of offices, the form of organization as originally made by the committee was adopted and the following officers were elected: President, A. H. Levings, Milwaukee; 1st Vice-President, C. H. Lemon, Milwaukee; 2nd Vice-President, W. E. Fairfield, Green Bay; 3rd Vice-President, J. M. Dodd, Ashland; 4th Vice-President, C. Wilson Cunningham, Platteville; Secretary-Treasurer, Daniel Hopkinson, Milwaukee. Board of Regents—5 years, Dr. H. M. Brown, Milwaukee; 4 years, Dr. J. M. Lyman, Eau Claire; 3 years, Dr. F. G. Connell, Oshkosh; 2 years, Dr. J. F. Pember, Janesville; 1 year, Dr. W. C. F. Witte, Milwaukee.

The purposes for which the society was organized are set forth in the first article in the form of organization as follows:

ARTICLE FIRST:—The undersigned have associated and do hereby associate themselves together for the purpose of forming a corporation under Chapter 86 of the Wisconsin Statutes of 1898, and the acts amendatory thereof, and supplementary thereto, to carry on and maintain a society, the purpose of which shall be, to improve its members in the art and science of surgery in all its divisions and departments, to endeavor to maintain the art and science of surgery at a high standard, to hold meetings at specified times for the purpose of interchange of thought and for mutual education, presentation of cases and specimens, instruments and apparatus, to maintain museums, libraries, collections, laboratories, experimental boards or stations; to establish and maintain a fund for the founding and support of hospitals or other institutions for the care of surgical cases, to establish a fund for the purpose of advancing

the art and science of surgery and allied sciences, and generally to promote the work and profession of surgery; to acquire by purchase or gift, property real or personal, and the good will, rights and assets of all kinds under such terms as may be deemed advisable, of any person, or corporation; to buy, hold and sell any and all property, real, personal or mixed, necessary to be bought, held or sold for the purpose of such society; and the transaction of any and all other kinds of business necessary or properly connected with the purposes hereinabove stated, and incidental to the general purpose of such society, which said business is to be carried on within the State of Wisconsin.

It was the expressed desire of all the men interested in the organization of the society to maintain as far as possible the highest standard of ethical and professional excellence in the organization, and the following article seventh of the form of incorporation states very clearly the conditions under which men may become members, and the qualifications as to continued membership, form of expulsion, and means of re-instatement.

ARTICLE SEVENTH:—The members of the association shall consist of such number as shall be agreed upon by the Board of Regents, and the number may be increased or diminished at any time by a majority vote of the Board of Regents. Members of the medical profession, resident in the State of Wisconsin, or the Upper Michigan Peninsula, who are qualified as such by law and who have been in the active practice of surgery for a period of not less than five years may be admitted to membership in the association upon presentation to the Board of Regents of an application in writing endorsed by two members of the association, and upon recommendation to the association by the Board of Regents and an affirmative vote of the association.

For sufficient cause, and after thirty days notice in writing and a hearing before the Board of Regents, any member may be expelled from the association by a unanimous vote of the Board of Regents.

The conducting of business affairs of the association shall be vested in the Board of Regents.

The death, discharge, expulsion or resignation of a member from the corporation shall divest such member of every right and interest in the estate, property, privileges or franchises of such corporation which he may heretofore have had and enjoyed therein, and membership in said corporation shall not be assigned.

Any expelled member may appeal from the ruling of the Board of Regents, to the association at its next annual meeting, and be reinstated by a majority vote of the association. Notice of appeal must be served on the Board of Regents and the President of the association within thirty days after the expulsion by the Board of Regents.

At the meeting held at the Pfister Hotel, it was unanimously agreed that the following declaration should be adopted, and a form of application for

membership for charter members be forwarded, which includes this declaration as follows, so that the signature of this application will also be a signature to the application for membership.

APPLICATION FOR MEMBERSHIP IN THE WISCONSIN SURGICAL ASSOCIATION.

(Form for Charter Members.)

1. Full name Age
2. Location
3. Business address
4. School from which graduated
5. Date of graduation
6. Number of years in practice
7. Is your practice entirely "surgical"?
8. If not, what proportion (approximately) of it is surgical?
9. With what hospital or hospitals are you connected in an official capacity?
10. State office held with such hospital
11. Of what medical, surgical or other scientific societies are you a member?.....
12. If specialist, state specialty
13. Please give names of two surgeons or physicians in good standing in the State of Wisconsin to whom application may be made for endorsement.....
14. What special preparation have you had for surgical practice? Number of years internship.....
No. of years special study

DECLARATION.

I hereby promise, upon my honor as a gentleman, that I will not, so long as I am a member of the Wisconsin Surgical Association, practice division of fees in any form; neither will I collect fees for others referring patients to me; nor will I permit them to collect my fees for me; nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation; neither will I in any way, directly or indirectly, compensate any one referring patients to me; nor will I utilize any man as an assistant as a subterfuge for this purpose.

Signature of Applicant

Note.—The dues of the society are \$5.00 per year, payable annually in advance. The Articles of Association prescribe as follows:

Members of the medical profession resident in the State of Wisconsin or in the Upper Michigan Peninsula who are qualified as such by law, and who have been in the active practice of surgery for a period of five (5)

years, may be admitted to membership in the association upon presentation to the Board of Regents of an application in writing, endorsed by two members of the association, and upon recommendation to the association by the Board of Regents and an affirmative vote of the association.

A little time will be required before action can be taken upon the large number of applications for membership. The regents will act without prejudice, and as far as humanly possible, with justice, upon all applications.

Please be patient.

THE BOARD OF REGENTS.

Later a somewhat different form of application for membership for physicians not in the original list, will be forwarded to surgeons desiring to become members of the association, upon application to Secretary Dr. Daniel Hopkinson, 1008 Third St., Milwaukee.

The need for such an organization has long been felt, and if it be possible for the ideals that are embodied in the articles of association to be carried out, the society will be what it should be, a most valuable feature in the development of the medical and surgical interests in the state.

It is planned at the present time to hold the first meeting, which will be a clinical meeting, upon the 22d, 23d and 24th of April, and a program committee has been appointed which will draw up what should be an interesting and very profitable program.

Medical men engaged in the practice of surgery and who are in good standing, and properly qualified under the state law, and residing within the State of Wisconsin, and the Upper Michigan Peninsula, are invited to make application for the necessary forms and to join in this movement for the betterment of surgical conditions within the territory mentioned.

So far as known, in this movement nobody has any particular axe to grind, and every medical man should wish to help pull Wisconsin's surgical condition out of the morass of misunderstanding and should lend his aid.

RACE BETTERMENT.

Four hundred men and women of prominence, comprising the first representative group of scientific experts ever gathered in America for that purpose, met in Battle Creek January 8-12 to assemble evidence of race deterioration and to consider methods of checking the downward trend of mankind. The meeting was known as the First Na-

tional Conference on Race Betterment. Through the co-operation of the press, the objects and aims of the Conference have been very widely disseminated and a resultant influence for better race ideals is anticipated.

The Conference had its inception in the efforts of four men, particularly interested in race betterment—Rev. Newell Dwight Hillis, pastor of Plymouth Church, Brooklyn, N. Y.; Dr. J. H. Kellogg, of the Battle Creek Sanitarium; Sir Horace Plunkett, former minister of agriculture for Ireland, and Prof. Irving Fisher of Yale University. At the invitation of a central committee chosen largely by these men, fifty men and women of national prominence in the fields of science and education consented to share in the program. Their addresses, together with open discussion of many of the points considered, constituted a very widespread study of all phases of evident race degeneracy and the advocacy of many ideas of reform. Some of the suggested methods of improvement are frequent medical examination of the well, outdoor life, temperance in diet, biologic habits of living, open air schools and playgrounds, the encouragement of rural life, the segregation or sterilization of defectives, the encouragement of eugenic marriages by requiring medical certificates before granting license, and the establishing of a eugenics registry for the development of a race of human thoroughbreds.

GOOD ADVICE FROM THE PATIENT.

The following poem was written recently by a patient who is undergoing treatment for neurasthenia in a sanitarium in Wisconsin and his brave and sensible view of himself and his troubles ought to go far to start him on the road to recovery from them.

NEURASTHENIA.

By F. N. W.

Now don't be a chump, or a soft putty lump,
Or a jelly-fish boneless fool.
You're the son of a King, not a slavish thing;
Brace up like a prince born to rule.
Stop thinking of every ghostly thing
Which may rise to your somber view.
The future lies largely within your hands
To be moulded by God and you.
If you lose your grip on your tired nerves,
Never mind: paint a fence; hammer tacks.

And if you must cry, why, have a good bawl;
 What's the harm if your nerves should relax.
 But don't get the thought that you've come to the
 end

And everything's going to smash.
 Such a simple solution of things as that
 Would seem to be somewhat too rash.
 The end is not yet; there is work to be done,
 Get a grip on yourself and be well.
 And if the fight's hard, and the struggle is long
 And the trail of it drags through hell,
 Never mind; keep busy; hold on with both hands.
 The shadow will lift some day;
 And the phantoms of evil which haunt your brain
 Will evermore vanish away.
 Don't harp on your troubles to anyone else;
 We've all of us all we can bear.
 The man who is gay may be fighting for life;
 To add to his load is unfair.
 You are patient with others who sometimes break
 'Neath the strain of life's upward lift;
 Then why not be patient with self for a while?
 Just be quiet; let everything drift.
 Be an oyster, a clam, a mere animal thing;
 No matter what happens, *don't care!*
 'Till nature adjusts her account with your nerves,
 Fills your brain with her sunlight and air.
 Then stand on your feet in command of yourself;
 Pick up your tools, play your part
 With a new sense of kinship to those who break,
 Down deep in your pitying heart.

NEWS ITEMS AND PERSONALS

DR. S. G. PAKE, Duluth, formerly of Superior, sustained a fracture of the shoulder in a fall on an icy walk on January 29th.

DR. D. J. RYAN of Algoma will leave shortly for Europe.

DR. FRANCIS B. McMAHON, Milwaukee, has been appointed to a fellowship in the Mayo Clinical Laboratory at Rochester, Minn.

DR. F. W. HAMMOND has disposed of his practice at Wyocena to Dr. A. V. deNeven of Tisch Mills, and is now in Florida. He will later take up post-graduate work in New York or Baltimore.

DR. F. L. LEIMAN, Hartford, has been appointed assistant to Dr. F. W. Rogers as surgeon for the C. M. & St. Paul Railway.

DR. JAMES COX, Jefferson, has resigned his position as health officer of that city. Dr. J. C. Brewer has been appointed to fill the vacancy.

DR. C. A. DAWSON, River Falls, is undergoing treatment for a severe infection, caused by a small cut on a finger of his left hand.

DR. J. B. SPALDING, Kenosha, met with a painful accident on Jan. 20th at his office. In lowering the foot rest of his operating chair his right hand slipped and the thumb of the left hand was caught in the mechanism, requiring an amputation of the thumb.

DR. R. E. DAVIES, Waukesha, is the successor of the late Dr. E. W. Malone, as visiting physician at the county insane asylum.

DR. J. R. KINGSLEY, Sheboygan, will be a candidate for alderman in the first ward of that city, at the coming spring primary.

DR. R. J. WHITE, Milwaukee, appointed assistant surgeon at the Soldiers' Home Hospital, Jan. 29, has resigned to resume his former position on the staff at the Wauwatosa Insane Asylum.

THE STATE BOARD OF CONTROL on February 11, completed negotiations for the purchase of the Chase Tract of 600 acres of land near Union Grove, Racine County, as a location for the new \$300,000 state sanatorium for the feeble minded, which was provided by the last legislature. The price was \$65,000. The sanatorium will be erected during the year.

THE BLUE MOUND SANATORIUM, Wauwatosa, one of Milwaukee's institutions for the treatment of tuberculosis, was destroyed by fire on February 10th.

A resolution was introduced in the common council at Milwaukee, under which the city through a land contract, will acquire fifteen acres of land adjoining the Blue Mound Sanatorium on the east. It is intended to have this addition used for new pavilions, among which will be one for children.

THE SISTERS OF THE HOLY GHOST, who have recently taken possession of St. Mary's Hospital, Watertown, gave an elaborated banquet for the local physicians, druggists and clergymen of Watertown.

Work has begun on the new Municipal Hospital building at Waukesha.

Milwaukee's first school for crippled children was opened on February 5th in the Scott Street School building, with eight crippled children in attendance, five boys and three girls.

The Milwaukee Maternity Hospital and Free Dispensary Association opened their new hospital on February 23rd.

The State Senate of South Carolina killed a bill requiring that male applicants for marriage licenses present satisfactory medical certificates. The vote was 22 to 17. The measure was approved by the State Medical Association.

Doctor Eugene Chaney, formerly assistant physician at the Wisconsin State Hospital for the Insane, Mendota, and at the Milwaukee Sanitarium, Wauwatosa, has located in Milwaukee and will limit his practice to mental and nervous diseases.

Doctor Francis B. McMahon, a recent graduate of the medical departments of the University of Wisconsin and of the University of Pennsylvania, was appointed to one of the three year fellowships at the Mayo Clinic and entered upon service February 1st.

REMOVALS

Dr. Theodore H. Larson, Madison to Waupaca.

Dr. J. R. Hughes, Milwaukee to Dodgeville.

Dr. Charles A. Lathrop, Tomahawk to Ripon.

Dr. F. F. Slyfield, Chicago, succeeds Dr. D. J. Ryan at Algoma.

Dr. A. Roos, for the past twenty-five years located at Oshkosh, has disposed of his practice to Dr. R. F. Bickel of Shamokin, Pa., and has removed to Chicago.

Dr. H. E. Luehrs of Hilbert has disposed of his practice to Dr. Paul Ackerman of Chicago, and will locate either at Fond du Lac or San Antonio, Texas.

DEATHS

Dr. W. T. Wohlheiser, Whitewater, died on January 15th. Dr. Wohlheiser has practiced medicine thirty years. He formerly lived at Madison and South Wayne.

Dr. W. H. Lincoln of Mondovi died on January 29, following a stroke of apoplexy, aged 56 years.

Dr. K. C. Storlie, of Coon Valley, died on December 28, 1913, at the LaCrosse Hospital. Knudt C. Storlie was born at Spring Grove, Minn., Oct. 2, 1868. After having finished the common school, he attended Breckenridge College, Decorah, Ia., and Caton College, Minneapolis, Minn. He entered Bennett Medical College—later Carnegie University—in 1891 and was graduated in 1895. The same year he began practicing at Coon Valley

where he lived until the time of his death. He was a member of Vernon County and the State Medical Societies.

PROPAGANDA FOR REFORM.

Lactic Acid Ferment Preparations in N. N. R.—Assertions that the lactic acid ferment preparations on the market are worthless caused the Council on Pharmacy and Chemistry to examine those admitted to N. N. R. While past examinations showed this class of preparations to be most unreliable, the present market supply was found to be satisfactory. The products examined were Fairchild Culture of *Bacillus Bulgaricus*, lactic bacillary tablets, Fairchild, lactampoules, Fairchild, bacillary milk, Fairchild, bulgara tablets, H. W. Co., mossolin Schieffelin (*Jour. A. M. A.*, Dec. 6, 1913, p. 2084).

Sanatogen — The fundamental objection to Sanatogen is not its outrageously high price, but the attempt to ascribe to a mixture of casein and glycerophosphate powers not possessed by these ingredients. The claim that Sanatogen is a "nerve food" is an absurdity as is any claim that the casein in Sanatogen has a greater food value than the casein in ordinary milk. Physicians who have given fulsome puffs for Sanatogen are invited to study the claims which are made for it—the following being one ". . . it revivifies the nerves, promoting sleep and helping digestion . . ." (*Jour. A. M. A.*, Dec. 6, 1913, p. 2085.)

The Value of Echinacea—While most extravagant claims are made for the drug, the Council on Pharmacy and Chemistry concludes that, on the basis of the available evidence, echinacea is not entitled to be described in New and Nonofficial Remedies as a drug of probable value (*Jour. A. M. A.*, Dec. 6, 1913, p. 2088).

Texas Guinan—The Texas Guinan World-Famed Treatment for Corpulency (Texas Guinan Co., Los Angeles, Cal.) appears to be the latest venture of W. C. Cunningham, of Marjorie Hamilton's Obesity Cure fame. It is exploited by follow-up letters giving the experiences of Texas Guinan, an actress, and offering the preparation at a sliding scale of prices, ranging from twenty down to three dollars. From an analysis made in the A. M. A. Chemical Laboratory it appears that an essentially similar preparation may be obtained by mixing one pound of powdered alum with ten ounces of alcohol and enough water to make one quart. A second specimen which was examined in

the Association's Laboratory contained no alum or alcohol and appeared to be a tragacanth preparation of the "vanishing lotion" type (Jour. A. M. A., Dec. 13, 1913, p. 2173).

Colloidal Palladium—A preparation of colloidal palladium, under the proprietary name Leptynol, is proposed as a means of causing the absorption of adipose tissue. The preparation appears one of the many thousand proprietaries produced abroad in the past year and put on the market after meager experimental work (Jour. A. M. A., Dec. 13, 1913, p. 2179).

Dowd's Phosphatometer—According to its inventor this is a device "for taking the phosphatic index or pulse of the nervous system". Its originator Dr. J. Henry Dowd, M. D., Buffalo, N. Y., writes enthusiastically of his instrument and of "Comp. Phosphorus Tonic". The phosphatometer is a scientific absurdity which pretends to determine the amount of phosphate in the urine and thus to measure "nerve metabolism". (Jour. A. M. A., Dec. 20, 1913, p. 2258.)

Another "Cancer Cure"—Denver newspapers advertise that the International Skin and Cancer Institute of Denver claims to have a cure for cancer. The "cure" is exploited by one John D. Alkire. No doubt those afflicted with cancer, and those who believe themselves afflicted with cancer, will flock to Denver for the "cure". The actual victims of the disease will of course die, but there will be the usual number of recoveries from non-malignant sores that will be heralded as "cures" and thus will make the venture a profitable one. To the honor of Denver it may be said that some of its newspapers refused the advertisement (Jour. A. M. A., Dec. 20, 1913, p. 2248).

The Ready Reckoner—The attempt of a proprietary exploiter to pose as the physician's post-graduate instructor comes from the promoter of a "blood stimulating" preparation—Hemaboloids Arseniated (with Strychnia). It is in the form of a ready reckoner for the diagnosis of pathologic sputum. The thing consists of a revolving arrow surrounded by circles containing illustrations of bacteria such as no human eye ever saw through a microscope. The physician apparently is expected to point the arrow to what he sees, or thinks he sees, in the microscope and then, through a window in the tail of the arrow, observe the name of the organism and the disease which it produces. The device is an insult to intelligent physicians and

belongs in the waste-basket (Jour. A. M. A., Dec. 27, 1913, p. 2306).

Pa-Pay-Ans (Bell)—An analysis, included with the report of the Council on Pharmacy and Chemistry rejecting the product, failed to find one of the constituents claimed to be present in the preparation—the constituent after which the medicine appears to have been named, namely papain (Jour. A. M. A., Dec. 27, 1913, p. 2314).

ON KUROKUSAKAME AS PRODUCER OF OCULAR AFFECTIONS. (CONJUNCTIVITIS ENTOMOTOXICA). Takashima, S., Japan, at present at Kiel. (Klin. Mon. für Aug., 50, II, Dec., 1912, p. 685.) Kurokusakame or Fu, (*scotmophora vermiculata*), is an insect of the species of pentatomidae, which lives in Japan and does great harm to the rice plantations. If it comes in contact with the human eye it produces violent inflammations. T. reports 4 cases and his experiments with the juice of the insect on the eyes of rabbits with the following resumé: The eye symptoms are edema of the conjunctiva and lids, intense lacrimation and muco-purulent secretion, sometimes subconjunctival hemorrhages and affections of the cornea. Its effect is similar to abrin, dionin, kantharidin, poison of the bee and ascarides, and blood of the eel. Watery or etheric solutions of the juice were ineffectual and the search for formic acid and kantharidin in it was negative. The body of the insect has the same effect, as its gland most likely contains a gaseous substance which has a deleterious influence on the eye.

C. ZIMMERMANN.

RETROBULBAR NEURITIS, WITH AMAUROSIS FOR 8 DAYS AND MOST SEVERE CEREBRAL SYMPTOMS, FROM INFECTIOUS MULTIPLE NEURITIS. Cramer, E., Kottbus. (Klin. Mon. für Aug., 51, I, Jan., 1913, p. 58). A man, aged 36, who had been ill for a week with indefinite febrile gastric symptoms, was sent to C. on account of sudden impairment of sight. V R 3-35, V L 1-40. The visual fields showed R a small central absolute scotoma, L a central scotoma extending into the nasal portion. Pupils and fundus presented no changes, and the diagnosis of acute retrobulbar neuritis was made. In the following 5 days total amaurosis and immobility of the pupils developed with severe general symptoms: headache, vomiting, subnormal temperature, retarded pulse, and mental derangement. The lumbar puncture was negative. After a week the temporal halves of the discs were pale, V gradually returned, with persistence of the central scotomas. Ten days later the pupillary reaction was normal. The tendon reflexes were entirely abolished, but there was not the least ataxia. V gradually rose to R 3-10, L 1-10. C. attributes the affection to acute multiple neuritis, which, according to Oppenheim, Wilbrand and Saenger, affects not only the peripheral, but sometimes also the cranial nerves. These authors remark that, although seldom, pallor of the temporal halves of the optic discs occurs in acute polyneuritis, but always with extinction of the tendon reflexes.

C. ZIMMERMANN.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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C. A. EVANS, Milwaukee
1st Vice President

C. J. COMBS, Oshkosh
2nd Vice President

EDWARD KINNE, Elkhorn, 3rd Vice President

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3rd Dist., F. T. Nye - Beloit
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C. A. EVANS, Milwaukee, Chairman

NEXT ANNUAL SESSION, OSHKOSH, OCT. 7-9, 1914.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	W. T. Rinehart, Ashland	George Harrison, Ashland
Barron-Polk-Washburn-Sawyer-Burnett	B. N. Webster, Rice Lake	E. R. Hering, Shell Lake.
Brown-Kewaunee	Julius J. Bellin, Green Bay	I. E. Levitas, Green Bay.
Calumet	E. L. Bolton, Chilton	F. P. Knauf, Kiel.
Chippewa	C. A. Hayes, Chippewa Falls	A. L. Beier, Chippewa Falls.
Clark	H. H. Christoffersen, Colby	E. L. Bradbury, Nellisville.
Columbia	B. F. Bellack, Columbus	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills	A. J. McDowell, Soldiers Grove.
Dane	T. W. Torney, Madison	F. S. Meade, Madison.
Dodge	H. B. Sears, Beaver Dam	E. S. Elliott, Fox Lake.
Door		N. Z. Wagener, Sturgeon Bay.
Douglas	C. M. Gould, Superior	W. H. Schnell, Superior.
Dunn-Pepin	L. A. Larson, Colfax	L. A. Dahl, Menomonie.
Eau Claire	F. S. Cook, Eau Claire	R. E. Mitchell, Eau Claire.
Fond du Lac	D. J. Twohig, Fond du Lac	H. C. Werner, Fond du Lac.
Grant	S. W. Doolittle, Lancaster	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe	S. R. Moyer, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	J. F. Riordan, Berlin.
Iowa	J. P. Parmley, Mineral Point	H. D. Ludden, Mineral Point.
Jefferson	W. T. Clark, Ft. Atkinson	C. R. Feld, Watertown.
Juneau	W. B. Parke, Camp Douglas	A. T. Gregory, Elroy.
Kenosha	C. H. Gephart, Kenosha	A. J. Randall, Kenosha.
La Crosse	H. E. Wolf, La Crosse	J. M. Furstmann, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	Susanne Orton, Darlington.
Langlade	F. V. Watson, Antigo	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill	Herbert Saylor, Merrill.
Manitowoc	W. G. Kemper, Manitowoc	W. E. Donohue, Manitowoc.
Marathon	F. C. Nichols, Wausau	J. R. Bryant, Wausau.
Marinette-Florence	H. F. Schroeder, Marinette	M. D. Bird, Marinette.
Milwaukee-Ozaukee	C. H. Lemon, Milwaukee	Daniel Hopkinson, Milwaukee.
Monroe	L. G. Shewrich, Tomah	Spencer Beebe, Tomah.
Oconto	J. B. Atwood, Oconto	R. C. Faulds, Abrams.
Oneida-Forest-Vilas	J. T. Elliott, Rhinelander	C. A. Richards, Rhinelander.
Outagamie	J. R. Scott, Appleton	F. P. Doherty, Appleton.
Pierce	A. E. Gendron, River Falls	S. F. Rudolf, Ellsworth.
Portage	A. E. MacMillan, Stevens Point	W. F. Cowan, Stevens Point.
Price-Taylor	C. E. Fenelon, Phillips	G. H. McClure, Westboro.
Racine	Emil Tompach, Racine	Susan Jones, Racine.
Richland	C. F. Dougherty, Richland Center	H. C. McCarthy, Richland Center.
Rock	I. W. Keithley, Beloit	F. E. Sutherland, Janesville.
Rusk	H. C. Johnson, Glen Flora	Julian C. Baker, Hawkins.
Sauk	F. D. Hulbert, Reedsburg	Roger Cahoon, Baraboo.
Shawano	J. F. Ragan, Gresham	C. E. Stubenvoll, Shawano.
Sheboygan	J. R. Kingsley, Sheboygan	W. F. Zierath, Sheboygan.
St. Croix	L. A. Campbell, Clear Lake	W. H. Banks, Hudson.
Trempealeau-Jackson-Buffalo	B. P. Rosenberry, Arcadia	G. H. Lawrence, Galesville.
Vernon	John Schee, Westby	F. E. Morley, Viroqua.
Walworth	F. J. Fucik, Williams Bay	Edward Kinne, Elkhorn.
Washington	W. J. Wehle, West Bend	S. J. Dressel, Barton.
Waukesha	W. S. Wing, Waukesha	S. B. Ackley, Waukesha.
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London.
Winnebago	L. P. Allen, Oshkosh	H. W. Morgenroth, Oshkosh
Wood	J. A. Jackson, Rudolph	J. B. Vedder, Marshfield.

SOCIETY PROCEEDINGS

CHIPPEWA COUNTY

The Chippewa County Medical Society held its annual meeting at the Council Chamber, Chippewa Falls, on January 14th, and elected the following officers: president, Dr. C. A. Hayes; Secretary, Dr. A. L. Beier; censors, Drs. C. W. Wilkowski, H. H. Hurd, C. N. Abbott; delegate, Dr. A. L. Beier; alternate, Dr. C. W. Wilkowski. The program was as follows: "The Use of the X-Ray in Diagnosis". Dr. J. C. Baird, Eau Claire; "Public Health". Dr. Fred Johnson, Eau Claire; "Headaches". Dr. C. W. Wilkowski, Chippewa Falls; "General Organization of Medical Societies" Dr. F. Cook, Eau Claire. The program closed with a supper at the Stanley House.

DOUGLAS COUNTY

At a meeting of the Douglas County Medical Society held at Superior on February 5th, Dr. W. A. Coventry of Duluth read a paper on "Cancer"; Dr. E. L. Moulton spoke on the Wassermann Test, and the effect of a number of new vaccines and serums.

EAU CLAIRE COUNTY

The regular monthly meeting of the Eau Claire County Medical Society was held at the Galloway House, January 26th. Supper was served at 7 o'clock. Members of the Chippewa County Society were the guests of the evening. Dr. Fred Johnson of Eau Claire read a paper on "The Milk Supply for a Town of 20,000 people", which was discussed by Dr. J. F. Farr, of Eau Claire. Dr. Stephen Williams of Chippewa Falls also presented a paper.

The following officers were elected for 1914:

President, Dr. F. S. Cook, Eau Claire; Vice President, Dr. D. W. Ashum, Eau Claire; Secretary and Treasurer, Dr. R. E. Mitchell, Eau Claire; Censor, Dr. R. R. Chase, Eau Claire; Delegate, Dr. E. E. Tupper, Eau Claire.

LANGLADE COUNTY

Langlade County Medical Society met and elected the following officers on February 6th: President, Dr. F. V. Watson, Vice President, Dr. H. G. Westphal; Secretary-Treasurer, Dr. J. H. Wright.

MANITOWOC COUNTY

The first meeting of the year of the Manitowoc County Medical Society was held at the Williams House on January 8th, and the following officers elected: President, Dr. W. G. Kemper; Vice President, Dr. A. J. Shimek; Secretary-Treasurer, Dr. W. E. Donohue; delegate, Dr. J. R. Currens; Alternate Dr. C. M. Gleason.

MARATHON COUNTY

The Marathon County Medical Society held a meeting at the Wausau Club House on January 27th. A resume

of the progress of medicine for 1913 was given. Dr. Jos. F. Smith spoke on Surgery; Dr. D. T. Jones on Obstetrics; and Dr. H. T. Schlegel on the Eye, Ear, Nose and Throat.

MARINETTE COUNTY

Marinette County Medical Society held a well attended meeting in the parlors of the Hotel Marinette January 15th. Dr. E. E. Axtell read a paper on "Roentgenology in Diagnosis", which was demonstrated by stereopticon views. Otto Bradley representing the Anti-tuberculosis Association delivered an address on "The Merits of a Tuberculosis Sanatorium."

MONROE COUNTY

The Monroe County Medical Society held its annual session at Sparta on January 9th. Dr. L. G. Sheurich, Tomah was elected President of the Society and Dr. Spencer Beebe of Sparta was chosen Secretary.

ROCK COUNTY

Three papers of unusual interest were read at the meeting of the Rock County Medical Society, which met at the Municipal Court January 28th. The subjects of the papers and their authors were as follows: "A Study of Twenty-five Prostatectomies Performed by the Three Usual Methods" Dr. F. W. Nuzum, Janesville. "The Relation of the Sympathetic to Diseases" Dr. S. B. Buckmaster, Janesville. "A Report of 200 Cases of Tonsillectomy" Dr. M. P. Andrews, Beloit.

SHEBOYGAN COUNTY

Members of the Sheboygan County Medical Society listened to a lecture by Dr. Herman Kretschmer of Chicago at the High School, Sheboygan. The discussion was on gall-stone surgery and kidney disease. His discussion was illustrated with stereopticon views, and was one of the most interesting ever given before the association. He demonstrated the use of the x-ray in the work.

TWIN CITY MEDICAL ASSOCIATION

The Twin City Medical Association elected these officers on February 11th, at Neenah: President, Dr. G. E. Forkin, Vice-President, Dr. S. D. Greenwood, Secretary-Treasurer, Dr. T. D. Smith.

FOX RIVER VALLEY

Fox River Valley Medical Society held its annual meeting in Green Bay February 4th. The session opened at 1:30 P. M. at the Beaumont Hotel and a banquet was served at 5:30 there after the business meeting. The program for the meeting was as follows: "Gastric Carcinoma. A Review of Recent Literature." Dr. Ralph M. Carter, Green Bay. "Toxic Amblyopia" Dr. S. G. Todd, Neenah. "Perforating Gastric Ulcer" Dr. C. J. Combs, Oshkosh. "Fracture Apparatus" Dr. Chas. H. Lemon, Milwaukee.

MILWAUKEE MEDICAL SOCIETY

The Milwaukee Medical Society has elected these officers: President, Dr. R. C. Brown, 1st Vice-President, Dr. Alfred W. Gray, Second Vice-President, Dr. G. C. Rahlund, Secretary, Dr. Osear Lotz, Treasurer, Dr. J. P. McMahon; Curator Dr. P. F. Rogers, Librarian, Dr. Wilbur LeCron.

WISCONSIN SURGICAL ASSOCIATION

The Wisconsin Surgical Association was organized at a meeting of more than 200 leading surgeons of the state on February 7th at Milwaukee. The following officers were elected: President, Dr. A. H. Levings, Milwaukee; 1st Vice-President, Dr. C. H. Lemon, Milwaukee; 2nd Vice-President, Dr. W. E. Fairfield, Green Bay, 3rd Vice-President, Dr. J. M. Dodd, Ashland; 4th Vice-President, Dr. Wilson Cunningham, Platteville; Secretary-Treasurer, Dr. D. H. Hopkinson, Milwaukee; Regents, Drs. H. M. Brown, W. F. C. Witte, Milwaukee; J. F. Pember, Janesville; F. G. Connell, Oshkosh; J. V. R. Lyman, Eau Claire.

Another meeting will probably be held at Milwaukee in April.

MILWAUKEE OTO-OPHTHALMIC CLUB.

At the regular meeting of the Milwaukee Oto-Ophthalmic Club held January 20th, 1914, the new Constitution and By-Laws were accepted by the Society. The following officers were elected for the ensuing year: President, Dr. Henry B. Hitz, Vice-President, Dr. Franz Pfister, Secretary-Treasurer, Dr. Gustavus I. Hogue. The members of the Council elected are: Drs. Hitz, Pfister, Hogue, Dernehl and Zimmermann. The following members reported cases: Dr. P. H. Dernehl reported two cases of papillomata of the uvula. Also a case of epithelioma of the caruncle. Dr. J. S. Barnes reported a case of detachment of the retina. Dr. N. M. Black reported a case of the loss of ocular accommodation due to a deviated septum. Dr. A. G. Kreutzer reported a case of simple glaucoma. Dr. W. E. Grove reported a case of carcinoma of the pharynx. Dr. C. S. Beebe reported a case of abscess of the nose and Dr. H. B. Hitz reported a case of epithelioma of the antrum and hematoma and also a labyrinth case which he had operated upon.

GUSTAVUS I. HOGUE, M. D., *Secretary.*

BOOK REVIEWS

PYORRHEA ALEOLARIS, by Frederick Hecker, B. Sc., D. D. S., A. M., M. D., Consultant at Bell Memorial Hospital of the School of Medicine, University of Kansas, Rosedale, Kansas; and at St. Margaret's Hospital, Kansas City, Kan., illustrated, 146 pages, price \$2.00, C. V. Mosby Co., St. Louis, 1913.

A monograph rather elementary as regards a study of the subject itself, advocating for practically all manifestations autogenous bacterial vaccination, and devoting

considerable attention to the technique of the preparation of autogenous vaccines, culture media and blood smears according to the author's methods.

CRIME, ITS CAUSES AND CURES. By Thomas Speed Mosby, Former Pardon Attorney of the State of Missouri, Published by C. V. Mosby Co., St. Louis, Mo. 1913. pages 354. Illustrated, Price \$2.00.

Evidently this little book is an effort upon the part of the author to present for popular reading a resume of the etiology and therapeutics of crime.

Part I is given over to general and special considerations pertaining to the etiology of crime, important among which the author considers "Publication in the daily press of the minute details of crime and criminal trials * * * In great centers of population where newspapers of large circulation are numerous, the suggestive power of the press can hardly be over-estimated." We quote also "It is noticeable, however, that crimes against property rights are most numerous where abject poverty and inordinate wealth exist side by side or in close proximity * * * One may reconcile himself to poverty where all are poor, but it seems harder to endure poverty in the sight of opulence."

Insanity in its relation to crime receives consideration, the author emphasizing several cases of repeated offenders subjected to punishment for certain crimes and to whom other crimes appeared abhorrent.

Under the head of prophylaxis Eugenics receives consideration; the well-known "History of the Juke Family" comprising 1200 descendants of Ada Juke, of whom nearly 1000 were criminals, the Zero family of Switzerland and that of Ben Ishmael of Kentucky are cited.

Asexualization, preferably by vasectomy in the male and salpingectomy in the female, is recommended as means of prophylaxis.

The chapters on therapeutics review the theory of punishment and the practice in the various states.

The author's attempt to review in so small a compass the literature of this subject, upon which so much has been written, would seem to detract from the forcefulness of the book, though it must be said that this feature would be of value to one who desired to delve more deeply into the subject.

The illustrations curiously, seem not to be directly related to the text, and hence are of only general interest.

HERBERT W. POWERS.

THE THEORY OF SEEING. 2 lectures delivered during the academic vacation course at Hamburg. Wilbrand, H., Hamburg. 31 pp. with 10 figures with text and 2 tables. Wiesbaden. J. F. Bergmann 1913. M. 1.60 \$0.40. In developing a theory of seeing the author presented not only facts, but, as he states in the introduction, also made use of numerous hypotheses for presenting a complete picture. He discusses the reasons for the necessity of a peripheral and cortical retina, respectively cortical visual center, the mode of projection of the peripheral retina upon the cerebral cortex, the necessity of a partial decussation of the optic fiber in the chiasm, the process of excitation in the single anatomical sections of the

visual sensory organ from the different layers of the retina to the optical ganglia, the horizontal conduction in the retina with the function of maintaining the sensitiveness of the retinal sensory cells to light at a constant height, the regulation of metabolism during dissimulation and assimilation of the visual substance, adaptation, the double provision of the macula, special centers for light and color, mind blindness and cortical blindness, and voluntary visual conceptions, etc. The well-written essay gives a very complete presentation of the subject in the light of modern physiological and pathological views and will be read with great interest.

C. ZIMMERMANN.

THE EVOLUTION OF LIGHT SENSE AND COLOR SENSE IN THE ANIMAL KINGDOM. Address delivered at the Congress of German naturalists and physicians at Wien, Sept. 25, 1913. Hess, Carl, München. 33 pp. with 12 illustrations in the text. Wiesbaden. J. F. Bergmann 1914. 1.60 Mark \$0.40. In this admirable essay v. H. gives a survey of his ingenious investigations on the visual qualities of the whole series of animals by which he discovered similarities, congruences with and differences from, those of man, if brought under corresponding conditions. While so far the color sense was considered widely spread in animals, H.'s researches showed, that it exists only in aerobic vertebrates. Fishes and all invertebrates so far examined behave in all disclosed relations like the totally color blind, or at subdued illumination the dark-adapted normal, man, if brought under corresponding conditions. By H.'s methods it was possible for the first time not only to explain satisfactorily the movements of the animals aroused by the physical excitations of the visual organ by the light, but also to predict with certainty those to be expected under experimental conditions, varied ad libitum. Finally v. H. shows how impressively these comparative physiological observations, illustrate the phylogenetic evolution of light and color sense, and give a broader interpretation of Johannes Mueller's law of the specific energies of the sensory organs.

C. ZIMMERMANN.

HANDBOOK OF SPECIAL SURGERY OF THE EAR AND THE UPPER AIR PASSAGES. Edited by Katz, L. Ludwigshafen; Preysing, H., Coeln and Blumenfeld, F. Wiesbaden. Second, enlarged edition. Vol. III. 619 pp. and Vol. IV. 695 pp., with 621 figures in the text and 138 lithographic plates. Würzburg, Curt Kabitzsch. 1914. 38 M. and 40 M. \$9.50 and \$10. Leather \$1.25 more each volume.

In our review of volume I. Wis. Med. Jour., January, 1914, we called attention to the practical importance of this fundamental work. Volume III. contains very exhaustive treatises on the surgery of the external nose by O. Seifert, Würzburg, the operations on the accessory sinuses of the nose by Boeninghaus, Breslau, intranasal surgery by L. Katz, Ludwigshafen, orbital complications of the affections of the accessory sinuses by R. Hoffmann, Dresden, tumors of the hypophysis and their operative treatment by A. Kuttner, Berlin, the surgery of the lacrimal passages by G. Ritter, Berlin the surgical treatment of malignant tumors of the upper jaw by B. Heile,

Wiesbaden; volume IV.; on the resection and extirpation of the larynx, pharynx, and oesophagus, operations on the mandibula, tongue, ligatures of the carotid artery, surgery of the thyroid gland, by Gluck and Soerensen, Berlin, laryngo-fissure by Hansberg, Dortmund, endolaryngeal operations by F. Blumenfeld, Wiesbaden, tracheotomy by Ph. Boekenheimer, Berlin, tracheo-bronchoscopy by Mann, Dresden, oesophagoscopy by H. Starck, Karlsruhe.

As in the first volume also in these the chief stress was laid on topographic anatomy with special reference to the fields of operation for practical requirements, detailed description of the various methods with deserimination of their respective merits and preferences, clear presentation of operative procedures according to the situation of cases, exact formulation of indication, description of instruments, history, critical valuation of the permanence of operative results and after treatment. The excellent work is a most reliable source of information, not only for the specialist in ophthalmology, otology, and rhino-laryngology, but also for the general surgeon. The abundance of artistically executed plates adds greatly to the value of the book.

C. ZIMMERMANN.

ABSTRACTS

SCINTILLATING SCOTOMA AND VASOMOTOR SPASMS (LOCAL SYNOCOPE) ON BOTH HANDS. Poellot, W., Darmstadt. (Klinische Monatsblätter für Augenheilkunde 51. II, December 1913, p. 728). A woman, aged 52, suffered from vasomotor spasms of the fingers in form of local syncope, so that the fingers became ice cold, white, like dead, paresthetic and anesthetic. She also had attacks of scintillating scotoma, with slight migraine, at first of one eye and then of both eyes. Angiospasm of the retinal arteries could not be observed. The patient came from a family of general nervousness and a great lability of the vasomotor nervous system, as shown by a genealogical table.

C. ZIMMERMANN.

ON EYE SYMPTOMS IN PARESIS. Uthoff, W., Breslau, (Transactions of the 39th Congress of the Ophthalmological Society. Heidelberg, 1913), gives a synopsis of the ocular symptoms of paresis from his examinations of a large number of patients. The most important are progressive atrophy of the optic nerve 8%, ocular palsies 10%, ophthalmoplegia exterior not rare, ophthalmoplegia interior 3%, pathological disturbances of the pupils with regard to the light reflex 52%, 44% out of which were cases of reflex iridoplegia, anisocoria 22%, deformation of the pupillary margin 25%.

C. ZIMMERMANN.

TO THE ETIOLOGY OF PARENCHYMATOUS KERATITIS. Stargardt, K., Hamburg. (Transactions of the 39th Congress of the Ophthalmological Society. Heidelberg, 1913). injected blood with trypanosomas, and trypanosomas themselves, directly under the conjunctiva of rab-

bits and guinea-pigs. In some cases a parenchymatous keratitis developed from the place of injection, in others not. In the positive cases larger quantities of living trypanosomas were found in the cornea. Injections of toxins of trypanosomas had no effect and injections of dead trypanosomas caused irritation but not parenchymatous keratitis. Experiences of comparative and pathological anatomy suggest, that the parenchymatous keratitis in man can be caused only by the immigration of spirochaetae into the cornea.

C. ZIMMERMANN.

CONTRIBUTION TO THE TREATMENT OF NYSTAGMUS OF MINERS. Ohm, J. Bottrop, (*Centralblatt für praktische Augenheilkunde*, 37, December 1913, p. 376). The fact that ethyl alcohol has a sedative influence on nystagmus of miners, but, on account of the large quantities necessary, cannot be therapeutically utilized, led O. to search for other carbo-hydrates related to it and found these in aleudrin and adalin doses of 1.00 and 0.50. Unfortunately their beneficial action could not be ascertained in all cases.

C. ZIMMERMANN.

FURTHER COMMUNICATIONS ON THE PALLIATIVE OPERATIONS, ESPECIALLY THE "BALKENSTICH" IN CHOKED DISC. von Hippel, E., Halle, a. S., under collaboration of Goldblatt, Lodz, (*Von Graefe's Archiv für Ophthalmologie*, 86, p. 170), supplements his communication before the Ophthalmological Society, Heidelberg, 1912,) (reviewed in *Wis. Med. Jour.*), by a very detailed report of 43 pages with the following summary: The surgical treatment of choked disc must today be considered as the normal procedure. Of the various methods the "Balckenstich" deserves consideration importance. As the minor and least dangerous procedure it is to be recommended at the right, i. e. early, stage of choked disc. If not successful, a further operation can be performed generally under more favorable conditions of intracranial pressure, by which its danger is certainly diminished. If the choked disc is not in the early stage, v. H. recommends trephining.

C. ZIMMERMANN.

TO THE PATHOLOGICAL ANATOMY OF DIABETIC INTOXICATION AMBLYOPIA. CONTRIBUTION TO THE PATHOGENESIS OF THE NEUROGENOUS CENTRAL SCOTOMAS. Roenne, Henning, (From the eyeclinic of Prof. M. Tscherning in the University of Copenhagen. *Von Graefe's Archiv für Ophthalmologie*, 85, p. 489), reports 2 cases of recent diabetic intoxication amblyopia. In the first, a man aged 34, with severe diabetes but no abuse of alcohol or tobacco, a central amblyopia developed, differing from the ordinary tobacco amblyopia by a more acute onset (3½ months before death) and greater defects in the visual field, viz. absolute paracentral scotoma of right eye, total absence of perception of green in both. Histologically the optic nerve was normal, but the papillomacular fascicle showed symmetrical foci of degeneration in the anterior portion of the chiasm, anterior portion of tract and at the border between external geniculate body and tract, each a few mm. long. While the papillomacular

fascicle between these foci exhibited only slight degenerative changes, the tissue within the foci was totally changed by considerable accumulation of granular cells which partly ensheathed the vessels, scarce lymphocytes and plasma cells, with total degeneration of the medullary sheath. These changes were degenerative, not inflammatory. In the optic nerve the axes cylinders were normal, the medullary sheath slightly degenerated. In the retina more than half of the layer of ganglia was destroyed. The degeneration seemed to affect mostly or exclusively the small cells which at the central region constitute the large majority of ganglion cells, while the number of the larger cells was normal. In the corpus geniculatum was a slight chromatolysis of the small ganglion cells (the origin of the occipital neuron) in the region of the ganglion formally described by Roenne as macular.

The second case, a man, aged 33, who smoked much tobacco but abstained entirely from alcohol, had a severe diabetes with intense acidosis. 6 months before death a grave intoxication amblyopia set in suddenly with intense, partly absolute, central scotomas and total absence of green, but normal external borders. Histologically the optic nerve presented limited foci of degeneration in its intracanalicular portion also the foremost part of the chiasm and the anterior portion of the tract, becoming less in the middle of the tract and successively diminishing corpus geniculatum as far as its center. The papillomacular bundle contained throughout abundant granular cells. Especially in the intracanalicular and intracranial portions of the optic nerve granular fat cells and small groups of lymphocytes were arranged around the vessels, also a small number of lymphocytes were encountered in the tract, no plasma cells. All over was a considerable degeneration of the medullary sheaths excepting the orbital portion of the nerve, where it was very slight. The axes cylinders showed less degeneration. The cells of the macular region of the external corpus geniculatum were very much degenerated, and in the retina the small cells in the central ganglion layer.

There was no interstitial optic neuritis and the cases showed a great resemblance to the changes found by Dalen in a case of recent intoxication amblyopia from alcohol (3 months old). Dalen concluded from this, in concordance with Roenne who examined 10 cases of alcohol amblyopia, that the view of older authors (Samelsohn and Ulthoff) that the cause was to be attributed to a primary interstitial optic neuritis, is not further tenable. The complete lack of changes of the connective tissue in these recent cases show with certainty that the nervous tissue was primarily affected.

The most important phenomenon resulting from the investigation with regard to the topographic relation of the macular bundle was, according to the author, a striking corroboration of his former proof of the projection of the macula upon the corpus geniculatum.

C. ZIMMERMANN.

ON LESIONS OF THE EYE BY LIGHT. von Hess, C., München, *Archiv für Augenheilkunde*, 75, p. 127).

gives in this address, read before the international medical congress at London, a very exhaustive and critical synopsis of the present state of our knowledge on this important. Hess proved by his own experimental and clinical investigations the erroneousness of the conception of the injurious effect of ordinary daylight on diseased eyes, especially serophulous ophthalmia, iritis, disposition to cataract. According to these one cannot speak of photophobia transmitted by the nerves of the cornea or iris. In certain diseases of the cornea and conjunctiva the disturbances may be less perceptible and distressing in the complete dark, after exclusion of all light, if the lids are firmly pressed together. This is also the case in the light and easily leads to the faulty assumption that the closure of the lids is a consequence of photophobia. It was supported by the fact that by closure of the lids the eye becomes dark adapted and therefore more sensitive to light, but the photophobia is secondary to the closure of the lids and has nothing to do with the disease of the cornea. If however the natural sources of light act in unusual intensity on the eye, lesions may occur. These are considered under the deleterious influences of direct sunlight, which according to Czerny consists in a coagulation by heat, confirmed by the recent experiments of Birch-Hirschfeld, the mechanical and electrolytic actions of lightning, as found by the author, after short circuit, snow blindness, erythroptia and spring catarrh, followed by the physical data on the permeability of the refracting media of the eye for, and absorption in them of, rays of different wave lengths, and the lesions of different parts of the eye by these.

Our modern artificial sources of light differ from the formerly chiefly used, kerosene and gaslight by greater intensity and greater percentage of short-waved rays. According to Voege the light of all electric incandescent, and most arc lamps and the Welsbach light contain less ultraviolet rays than daylight at the same surface illumination. One cannot postulate as Schanz and Stockhausen propounded, to exclude the short-waved light from the light which under ordinary conditions strikes our eye; under the action of ordinary daylight our visual organ has developed and has become adapted to these rays within wide limits, and one cannot suppose that the eye is damaged by these very rays. Therefore light sufficiently equal to daylight certainly cannot be injurious to the eye. This means only that the artificial sources of light show in no part of the spectrum, the visible or invisible, an essentially greater energy of radiation than daylight, but not, that only such an illumination is good or sufficient for the eye, whose energy of radiation is in all parts approximately or exactly as great as daylight. For also with such sources of light whose energy of radiation in the visible parts of the spectrum is considerably smaller than the average daylight we can long and comfortably work without injuring our eyes, because our visual organ can sufficiently adapt itself, within extensive limits, to the illumination existing at the time. Finally v. H. discusses the

question of the necessity and usefulness of protective glasses and the experiments of utilizing certain groups of rays of the spectrum for therapeutic purpose. The valuable essay will be read with great interest and benefit.

C. ZIMMERMANN.

ON SOME OCULAR PHENOMENA OF PARALYSIS OF THE FACIAL NERVE AND THEIR PROGNOSTIC SIGNIFICANCE. Dutoit, A., Montreux, (von Graefe's Archiv für Ophthalmologie, 86, p. 145). A motorcyclist colliding with an automobile was thrown down and picked up unconscious, bleeding from the left ear from a rupture of the drum-head. He was subconsciously for 48 hours and showed a peripheral total paralysis of the left facial nerve, which after about a month began to subside. D. observed the following phenomena: After 2 days the patient could close the lids sufficiently if he forcibly turned the left eye outwards. Hasse explained the fact, that a patient with peripheral paralysis of the facial nerve can occasionally lower the paralysed upper lid, by a partly half unconscious, partly voluntary, relaxation of the tonus of the levator. Hence D. concludes for his case that, if the abducens receives an impulse of intention, and the 3d nerve yields to its antagonist, also the levator as antagonist to the orbicularis (facial nerve), yields to the impulse of intention of the abducens by passive relaxation. The resistance of the levator under natural conditions against closure of the lids seems superfluous in paralysis of the facial nerve. Therefore the indirect support by an impulse of intention, which moves the abducens, may also reach and incite the orbicularis. II. At the attempt to close the lids, the eye of the paralysed side turned up, the other eye not. D. explains this also by lack of tonus in the realm of the 3rd nerve and the inclination of the eye to assume its position of rest. To this Leber remarks in a footnote that the involuntary raising of the eye at the attempt of closing the lids is simply due to the innervation of the raising muscles, always associated with the closure of the lids. In facial paralysis the increase of innervation of the orbicularis is transmitted to the simultaneous innervation of the raisers of the eye, so that the eye turns up while the palpebral fissure remains open. The involuntary closure of the lids in laughing with simultaneous involuntary raising of the angle of the mouth is an indication of healing of peripheral paralysis of the facial nerve and points to treatment by methodic exercises. D. explains the muscular crepitation (dysacusis, acusalgia) in the ear of the paralysed side by the paralysis of the stapedius muscle. From the lack of the regulating movements of this muscle the stapes is exposed, and yields, to the slightest fluctuations of pressure of the labyrinthine fluid. D. infers from this disproportion which corresponds to a disturbance of equilibrium within the labyrinth an unnatural excitation of the terminations of the fibers of the cochlear nerve, which the patient perceives as noise.

C. ZIMMERMANN.

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ORIGINAL ARTICLES

ACUTE ILEUS—A CONSIDERATION OF ENTEROTOMY AND ENTEROSTOMY IN ITS TREATMENT.*

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Complete stasis of the fecal stream, among all peoples and in all ages, is a condition which fills with terror the hearts of the brave. The folk-speech of many countries has the term "Miserere" for intestinal obstruction, and this word represents in a measure the dread with which the folk-mind contemplates the condition of complete occlusion of the bowel.

The etiology and mechanism, the pathology, symptomatology, and treatment of intestinal obstruction in its many phases, present problems for the acutely trained medical mind of surpassing importance and difficulty. To discuss all these topics is not the aim of this short paper. I choose to pass over the different mechanical causes of obstruction, and the general symptomatology, to detail briefly the pathology and the modern treatment by enterotomy and enterostomy as applied after a mechanical obstruction has been relieved, and in the condition known as paralytic ileus, or inflammatory obstruction, so frequently seen in acute perforative peritonitis.

Enterotomy and enterostomy are new departures in the treatment of paralytic ileus. Paralytic ileus usually is the result of peritoneal infection from some perforation. It may be the condition left after the correction of a long standing acute mechanical obstruction. In either case we have a loss of muscular action of the intestinal walls, a stasis of the fecal stream, an increased bacterial activity inside the bowel, a decomposition of the contents, and the formation of toxins. Any surgical procedure which does not aim to relieve the bowel of

these offending materials must be considered a half measure. In severe cases only by immediate and thorough emptying of the bowel can we hope to save the patient from bacteriemia and fatal toxemia; from further paralysis of nerve plexuses; from further loss of peristaltic action caused by infiltration and edema.

There is an enormous difference of opinion among surgeons as to the value of enterotomy and enterostomy in this condition of a paralyzed, infected, and distended bowel. With a simple enterotomy, emptying of the bowel and suture of the opening, as so ably recommended by Moynihan, I have had no experience. I do not believe that it meets the indications. The bowel will refill. The Lembert suture will cut through, and we shall be no forwarder in our treatment.

It has been my thought, and this thought has ruled my practice, that any case in which enterotomy and emptying of the bowel were indicated, would be so much better served by enterostomy. You are all familiar with the technic of enterotomy. An opening is made in the bowel. A glass tube is inserted and feet of the intestine are passed over inches of the tube relieving the lumen of its contents. This seems very fine on paper, but when multiple enterotomies are done, it means that a patient with acute suppurative peritonitis must be literally disemboweled, entailing enormous trauma, the thing that the patient cannot stand if he needs the operation at all.

I must admit that I was one of the doubters until very recently as to the value of enterostomy. I believed that in many cases a permanent fecal fistula would result, requiring a dangerous and complicated secondary operation to cure. I believed that a high-grade paralytic ileus could not be cured by enterostomy, because the opening in the intestine would drain only a single loop and leave the patient no better, or even worse on account of the trauma incident to making the enterostomy. I have, however, modified my views somewhat in the last year. The use of enterostomy

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has given me a few surprising, and seemingly wonderful results. I shall give the case histories and findings of a few patients whose conditions were so desperate that I believed that no measure would avert a fatal issue. My judgment may have been in error. I realize how fallacious a limited experience may be. Many treatments for acute ileus have come and gone, amounting to but little more than futile tricks. Enterostomy is at present in vogue for paralytic ileus. In the few cases to which I shall refer the result has been most happy. Of course, if the intestinal paralysis is complete, we are dealing with the already dead. But let the opposition to the measure devise some unfailing method of determining when the loss of peristalsis is absolute. Those cases then which show a positive test, in other words, those which are already moribund, will not be bothered with further surgical interference. Until such knowledge is acquired, the time, the value, and the method of bringing direct drainage to the lumen of the intestine must remain a matter of individual judgment.

Enterostomy in paralytic ileus has as its object the removal of the decomposing septic contents of the bowel when they cannot be removed otherwise, and is performed only when absorption is severe and threatens life.

The clinical picture is familiar to us all. The striking phenomena of tachycardia, low blood-pressure, the profound collapse connected with the wide dilatation of the splanchnic blood vessels, all point to the loss of activity on the part of the vital nerve-centers. The lumen of the bowel contains innumerable microorganisms which are potentially pathogenic. When the fecal stream is stopped from any cause, these no longer have their normal outlet per anum. They are dammed up in the intestine under conditions favorable for their growth. Toxins are formed. Putrefaction occurs. There are gas formation and distention. The intestinal mucosa is damaged. The resistance to the passage of bacteria is lowered. Bacteria pass into the blood stream. With increasing meteorism, the respirations become rapid and superficial. So-called fecal vomiting occurs and soon the patient dies, dehydrated, starved, and poisoned.

Escher was the first to demonstrate the value of enterostomy in severe cases of typhoid peritonitis. Haffter early contributed a valuable article. Heidenhain established the procedure on a firm basis, and coined the term "inflammatory obstruction."

Greenough collected a mass of material to illustrate its value, and demonstrate its technic. Lennander advocated enterostomy in all cases of extensive injury of the bowel. My own experience covers a little more than a year, and I have five cases to report.

CASE 1. Mrs. F., 39 years old, farmer's wife, mother of one child, 14 years of age. Her family and personal histories have no bearing. I first saw her in the early evening, Oct. 29, 1912, and obtained these facts. Thirty-six hours previously, after lifting some heavy object, she was taken with sudden severe abdominal pain, and vomited. During these 36 hours, a physician had been in almost constant attendance. Many attempts had been made to relieve the bowel by enemas, but after the first ones, there was no passage of gas or fecal matter, and no relief of symptoms. Vomiting had continued at intervals from the onset.

My examination showed a patient profoundly sick, pulse 120, temperature 100°, vomiting a dark-colored, stinking material. The abdomen was tympanitic, evenly and markedly distended. I made the diagnosis of acute ileus probably due to an internal strangulation, which I believed was warranted from the present symptoms and the history. I had gone into consultation prepared to do a laparotomy in the patient's home. But to open an abdomen for intestinal obstruction of obscure internal origin, in the presence of an enormously distended bowel, by lamplight, with insufficient skilled help, in a remote, unsanitary, farm home, is too heroic a task for me. I advised removal to the hospital at Green Bay.

Operation, Oct. 30, 10 A. M., 48 hours after onset of symptoms. Median incision below the umbilicus. I found a knuckle of small bowel herniated in the recessus ilco-appendicularis. The loop was liberated; it was not gangrenous. The pocket was closed with a few catgut sutures. On incising the peritoneum, there was a gush of sero-purulent fluid, the intestines throughout their whole length were intensely reddened, covered with lymph, the intestinal walls infiltrated, and the gut enormously distended. As a forlorn hope, I placed a Paul's tube in the lower ileum, and brought it out of a stab-wound in the right side. The median wound was drained. The intestinal contents began to drain off soon after the patient was returned to bed. The stomach was washed, and vomiting ceased. The patient presented an appearance of

well-being in 12 hours, and made a good recovery. There were normal bowel movements per anum on the 8th day. The enterostomy wound closed spontaneously.

CASE 2. W. B., male, 35 years old, cheesemaker. Referred by Dr. Bender of Luxemburg. Patient had been sick three days. There was a history of sudden onset, with vomiting, abdominal pain, accelerated pulse, and rise of temperature.

Operation, May 23, 1912, Median laparotomy. I found a ruptured appendix, general peritonitis, and an accumulation of pus in the pelvis. The intestines were tremendously inflated, indicating what Heidenhain calls an "inflammatory obstruction." The appendix was removed, the pus wiped out with dry sponges. A Paul's tube was placed in the lower ileum. The intestinal contents drained away freely through the tube, and the recovery was smooth. Feces ceased to pass through the enterostomy wound at the end of the 18th day.

CASE 3. P. B., male, 26 years, entered the hospital Apr. 27, 1913. Referred by Dr. L. H. Baldwin of Gillett. Patient had been sick for eight days with the symptoms of appendicitis.

Operation. Incision through right rectus muscle disclosed perforated gangrenous appendix, and a general peritonitis. Three or four abscesses were found between coils of intestines. These pus pockets were broken up. The whole small intestine was distended to the size of the colon, and pus was everywhere in the peritoneal cavity. After amputating the appendix, I placed a rubber drainage tube through the lumen at the base into the cecum, and held it there by means of a purse-string suture—in other words, a cecostomy. Drainage was satisfactory from the peritoneal cavity and from the bowel. The convalescence was hindered by a severe diarrhea. In five weeks the enterostomy wound healed.

CASE 4. Four year old girl. Referred by Dr. W. C. Comee, of Cecil. She had been sick for two days. Operation July 6, 1913. I found a ruptured gangrenous appendix, and an abscess in the cul-de-sac. I placed two drainage tubes, one in the lower angle of the lateral incision, and one in a suprapubic stab. Everything went well, and the tubes were removed July 11. July 13 the pulse and temperature rose, and abdominal tenderness set in. Under anesthesia, drainage was re-established. July 18, marked tympanites developed. July 19, patient in bad condition, with all signs

of intestinal obstruction. The parents did not want any more operating, and I could not decide what to do. On the morning of July 20, conditions were very bad. Pulse 180, temperature 102°, fecal vomiting, and it seemed that dissolution was imminent. I proposed an enterostomy, stating that it could not do harm, and that the child might even die on the table. The laparotomy showed that soft adhesions had caused a complete obstruction of the lower ileum. The bowel was freed and the ileum was drained. The discharge of gas and feces was free. In 12 hours the picture was entirely changed. The child left the hospital in ten days with a fecal fistula, which closed spontaneously in one month.

CASE 5. Mrs. D. H., 35 years. Strangulated femoral hernia with gangrene of a loop of small bowel. The strangulation was of 24 hours' standing. Considering the femoral ring too small to permit the required resection and the return of the anastomosed bowel, I did a median laparotomy and brought the damaged gut out of the incision. Resection of eight inches of small intestine three or four feet from the cecal valve. The bowel was intensely reddened, and much distended. The patient was in considerable collapse. Fearing my anastomosis would give way under pressure of so great a quantity of intestinal contents, or a paralytic ileus would supervene I placed a large male catheter in the intestine 18 inches above the anastomosis, according to the method of E. J. Senn for gastrostomy, and brought the catheter through a stab wound in the right side. Median incision closed. Hernial opening repaired. There was free drainage from the bowel. The catheter was removed in five days. Fistula closed in 12 days. Patient made a good recovery and left hospital in 20 days.

I feel that I must apologize to this representative medical body for giving the treatment and results of a mere five cases, but in so doing I hope to justify in a measure some of the enthusiasm I at present have for enterostomy in heroic situations in abdominal surgery. Ileus is the Nemesis in intra-abdominal disease, especially inflammatory disease. I believe free drainage of the lumen of the intestine has served me well in the past year. I long doubted the efficacy of the device. I used it in my first cases because I thought everything was lost anyway. I believe the lives of some of these patients were saved by this means, and that the

convalescence was easier for all of them. I know of no untoward results following in these cases. I used enterostomy five times in what seemed to me desperate situations with 100% recoveries. This was fortunate, and such a record cannot continue. My next five cases may all die, but I shall not then be through with the device as it seems to me to be based on sound principles, if they work, and should reduce somewhat the death rate in ileus, mechanical and inflammatory. I do not recommend enterostomy except in situations of the utmost gravity; where there are marked collapse, profound toxemia and impending dissolution. In such crises it may be wise to defer further surgical procedure until the patient has won his battle for life, when corrective surgery can be carried out with deliberation. It would be most unfortunate for the unhappy victims of mechanical and inflammatory ileus if a great enthusiasm for enterostomy should lay hold of surgeons. But if a fine discrimination is used we shall learn when and when not to inflict a fecal fistula upon the subjects of abdominal surgery. At the close of operations where all the indications have been met, and in the presence of a loaded and severely infected bowel and peritoneum, enterostomy is the one thing, I believe, which gives the patient the best chance for his life. When the issue is in delicate balance it does away with the irritation, pain, and exhaustion, caused by giving enemas, and it avoids the early use of cathartics with their depressing influence. As soon as adhesions have formed enterostomy affords a means of introducing fluids into the intestine and thereby into the circulation. It provides a way for direct medical treatment of the severe ulceration, and diarrhea which not infrequently follow when the mucosa is damaged by obstruction.

When enterostomy was first introduced for the relief of intestinal obstruction, it was applied only in cases which could not bear further operation, and was performed in a crude manner. A loop of bowel was withdrawn, stitched to the skin, and opened. The aim was to produce a permanent fecal fistula, to be closed at a later operation. The refinement of modern technique aims at a control of the fecal stream to prevent soiling and excoriations, which always follow, when the skin is bathed with intestinal contents. Smearing with vaseline and zinc oxide are sorry makeshifts; the rubber dam surrounding the loop is far from successful.

To control the fecal stream, various devices have

been used, as a stiff rubber drainage tube held in the intestine by means of a purse-string suture, a Murphy button with a tube attachment, a Paul's tube, and a self-retaining catheter. I have found that a tube inserted into the intestine after the Witzel or E. J. Senn methods of gastrostomy gives the surest control of the fecal stream, and renders early spontaneous healing more certain. Any method which causes damage to the bowel must give fistulae which close only after considerable time or which refuse to close at all. This objection obtains with the Murphy button and to some extent with the Paul's tube. When the intestine is drained with a careful technique, healing is nearly always spontaneous, and the discharge does not persist many days after the tube is removed.

A REPORT OF TWO CASES OF OTITIC BRAIN ABSCESS SHOWING THE NECESSITY OF EARLY MASTOID OPERATION.*

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In a former issue of the Wisconsin Medical Journal an article was published entitled "Non-surgical Treatment of Otitis Media," containing statements that cannot be allowed to go unchallenged.

I am very well satisfied with what relates to the title proper, except that experience has proven that Politzerisation in an acutely inflamed ear is only safe in those cases where there is a very large opening in the ear drum, because otherwise the pus is forced into the antrum and the production of a mastoiditis invited. If we must avoid anything, we must avoid producing a mastoiditis with our treatment. The secret of the successful and safe treatment lies in the establishment of ample drainage by a sufficiently large opening in the drum, (a puncture is frequently closed up in 24 hours,) by antiseptic irrigations and gentle suction, which can be accomplished with any small rubber syringe. When the inflammation has subsided the Politzer bag should be used to re-establish the patency of the Eustachian tube and prevent the formation of intra-aural adhesions. Hearing will be restored rapidly thereby, but Politzerisation should

* Read before the Medical Society of Milwaukee County, Nov. 9, 1913.

not be tried through the Rosenmueller Fossa as advocated in that article, because this fossa and the pharyngeal opening of the Eustachian tube are two different things, the first being situated behind the latter.

The special reason for presenting this paper is to protest against the preaching that a mastoid operation is a dangerous operation and hardly ever indicated and also to illustrate the fallacy of such teaching by citing two cases of intracranial complications that terminated fatally because operation was delayed. It took years to teach the profession as well as the laity that an early appendicitis operation is the most successful and the least dangerous and that the cases that give the operation the mortality are those that are delayed and finally done as a last resort. Exactly the same condition holds good with respect to the mastoid operation. An early mastoid operation performed by an operator who knows his anatomy and masters the technique is practically devoid of danger.

I have operated on 37 cases since the first of this year, 34 of which recovered, two of them being operations of both ears at the same time. Three died, one infant who had all the symptoms of meningitis, and two other cases which I wish to relate at the end of this paper. Some of these cases were of the acute, some of the radical type. Subtracting these three cases with intracranial complications, one certainly cannot speak of the mastoid operation as being a dangerous one from such statistics. And my results are not any better than those of other experienced operators.

Supposing we should happen to open a mastoid process without actually finding pus. What would be the consequence? The operation would not be without doing good in as much as it would shorten the healing process of the otitis media and restore full hearing, and we could better afford to once make a mistake and make it in the direction of the safety of the patient than otherwise.

Three years ago I myself contracted a virulent infection in my right ear. I had a paracentesis done promptly and had it treated properly, but in spite of this found on the fifth day that the pain seemed to travel in the direction of the mastoid process. Knowing that at best I would have a discharging ear for some considerable time and the prospect of a later mastoid operation, also considerable loss in the hearing power on account of the long suppuration, I insisted on a prompt mastoid

operation, which gave me back my perfect ear in a few weeks. The quickest way to stop a discharging ear and the safest way to preserve the hearing power is by way of mastoid operation.

This certainly does not mean that every case of otitis media should have a mastoid operation. But with mastoid symptoms developing or with a discharge of the ear resisting constant treatment for more than two months it becomes the duty of the physician to advise a mastoid operation, even if in the latter instance the mastoid is not involved at all. An ear that discharges beyond a reasonable time usually gives poor hearing tests and is a menace to health and life, and this brings me up to my two cases that I wish to report to you in abbreviated form.

One is a case of a cerebellar abscess, the other one of an extra-dural abscess. In both cases the patients neglected to heed the warning of their physicians.

CASE No. 1. Mrs. W. S., 35 years of age, was sent to me from upper Wisconsin as a clinical patient to be operated on for mastoiditis. Saw patient only half an hour before operation while she was being prepared. She had a large swelling over right mastoid with a discharging ear and complained of terrific headache distributed over the antero-posterior portion of head and not at all unilateral. Spontaneous nystagmus to right was present and she was nauseated and made several attempts to vomit. No abnormal temperature; pulse 68; facial expression very dull; choked disk. History of otitis media of six weeks standing. Diagnosis Cerebellar Abscess. I performed a preparatory mastoid operation in the clinic, found pus in the mastoid and considerable destruction. I exposed the dura of the middle lobe, cerebellar lobe, and also of the sinus intentionally and found it normal. A perisinus abscess extended to the posterior part of the mastoid wound. Wound dressed. Next day other pressure symptoms relieved and no temperature, but pulse down to 54 and there was retention of urine. Following day, the condition was the same, except the pressure symptoms were increasing. Diagnosis confirmed, and secondary operation performed. Since vestibular as well as cochlear apparatus responded to some degree, the purulent destruction of the labyrinth and consequent invasion of the cerebellar fossa through this route did not seem likely and another route of invasion had to be found. I removed the bone along

the sinus until I had the dura exposed behind the sinus. No pulsation of the dura there. On opening the dura and inserting a knife into the cerebellar tissue for about two inches along the border of the petrous portion, I found pus to the amount of about 2 or 3 drams, which I evacuated and inserted a cigarette drain.

The next day and the following three days there was no abnormal temperature; sensorium cleared up, very little headache and patient began to eat and was feeling almost normal. Pulse went up to 70. The drainage tube was withdrawn about a quarter of an inch each day. On the fifth day the patient, while asleep, pulled off the bandage and with it removed the drainage tube. Same was replaced, but patient died the following day rather suddenly with temperature of 104°, pulse of 140.

SECOND CASE. Mr. L., traveling salesman for a wholesale liquor house, came to me from out of town. When I saw him first he was in a semi-stuporous condition and barely able to walk, with pupils contracted, perhaps due to narcotics administered and complained of intense headache which had been existing for some time. Had a discharge from the left ear as a sequella of an acute otitis media that he had contracted some 8 or 10 weeks before. Some swelling over the left mastoid was present with tenderness and redness. No spontaneous nystagmus; nausea, no appetite; pulse 116; temperature 103°. Appearance of patient indicated grave intracranial complication, either abscess of left middle lobe or an extra-dural abscess of that region.

I performed a mastoid operation and found considerable pus in the cellular structure and in the antrum. The dura of the middle lobe was found exposed in the carious process, not bulging but covered with granulomata. Intentional exposure of cerebellar fossa and lateral sinus gave no information. Wound left open and dressed and patient put to bed.

Next day temperature 105°; pulse 120; mental condition and headache not relieved. Secondary operation considered imperative. After cleaning out wound, entered extra-dural space anterior to petrous bone by lifting the dura from the base. I struck an abscess cavity with about 2 drams of pus one and one-half inches from the surface. Inserted drain and dressed wound.

After a few days it seemed as if a change in favor of the patient had taken place. However, he never

regained perfect consciousness and died 15 days later with symptoms of slow progressive pachymeningitis.

In conclusion I wish to say that these cases would not have had to terminate fatally if they had come to an early operation. I wish to repeat that an early operation for mastoiditis is practically without danger if done properly and is frequently indicated because it cuts short the otitis media, preserves the hearing power, and prevents such frightful complications as just reported in these two cases.

That such cases occur quite frequently is shown by the statistical fact, the 85% of all brain abscesses are of otitic origin.

Koerner's law, that almost all cases of otitic brain abscesses are found either right in front or right behind the petrous portion of the cranium has been accepted. It then must be interesting from a surgical standpoint to know, that perhaps 80% of brain abscesses come from the ear—are located near the ear—and can easiest be reached *through* the ear.

When we analyze further, we find that one-third of these abscesses are found in front of the petrous bone and are called temporal or parietal. the other two-thirds behind this bone and are cerebellar.

The temporal abscess is usually produced by extension of the purulent process upward through the roof of the middle ear or the antrum; the cerebellar by invading the inner ear or labyrinth and from there the cerebellum through the only two intra-cranial outlets of the labyrinth, namely, the internal meatus or canal for the auditory and the facial nerve, and the ductus endolymphaticus, or by invading the cerebellum in the locality of the lateral sinus.

The history of a case, the signs and symptoms of the invasion, and the intra-cranial symptoms enable us to make a fairly accurate diagnosis of such an abscess and its location.

MULTIPLE TUMORS OF THE SPINAL CORD—CASE REPORT.*

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A laborer, Lorenz Pfeiffer, (Hosp. No. 12761), 29 years old and single, entered the Milwaukee

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County Hospital on May 17th, 1913, complaining of pain in the back. He had hardly been admitted when he affirmed that he was quite well and wished to go back to work. Except for hard manual labor and frequent alcoholic excesses his history was negative. He dated his illness from a day two weeks before entering the hospital. The day was damp, his load was heavy, he became warm putting it into the wagon and sweated profusely. In this condition he drove several miles in the rain. When he alighted and attempted to raise the side-board to dump the sand in the wagon, he was seized with a cramp-like pain in his lower back and he became dizzy. He left his work and went to a physician who placed compresses on his back. He remained quiet for a week and then attempted to work but found that on account of the severe pain in the back, he was compelled to desist.

Physical examination revealed a powerful, well nourished man, weight 175 lbs., heart, lungs, abdomen, genitals, reflexes normal. There was restricted motion in the lower spine. He was discharged at his own request on May 19th. The diagnosis placed on the records was lumbago.

On July 2nd he was readmitted (Hosp. No. 12975) complaining of cramps in the belly, pains in the left leg and hip, and a dead feeling in both legs. He said that after leaving the hospital in May he had found a job in a milk depot. He worked for two weeks and then had another attack of pain over the lower back and in the abdomen. He could not sleep. There were shooting pains in both legs which came on suddenly. At other times there were creeping sensations in the legs. He had had some difficulty in urinating during the past three weeks but he always managed to pass his water in spite of the apparent obstruction to the flow. The bowels were sluggish.

He was carried into the hospital as he could not walk. His legs gave way under him. The bladder was found to be distended almost to the umbilicus and when catheterized on the morning following admission 1200 c. c. were withdrawn.

On physical examination the condition was somewhat different from that at his first admission. This time he was not so ruddy. He had evidently lost some weight. The blood pressure was systolic 148, diastolic 104. The internal organs seemed quite normal and the pupillary reflexes were normal. The abdomen, however, was distended, with some bulging in the left flank and some pain on

pressure. This side was held rather rigidly on respiration but there was no spasm. The knee jerks were present. He moved the legs with difficulty, especially revealing weakness of both iliopsoas muscles. The arms were normal. Rectal examination was negative. He was catheterized at regular intervals. The leucocyte count was 11000, the differential count was normal. The Wassermann reaction was negative, the cutaneous tuberculin reaction was negative, and there was no reaction to 3 mg. O. T. given subcutaneously.

On lumbar puncture, 5 c. c. of lemon-yellow fluid were withdrawn which rather quickly formed a soft central clot. There were 65 cells per c. mm. The Wassermann reaction was negative and staphylococci were found on culture. Blood culture was negative.

On July 4th the following note was made: When the patient tries to get up from the bed, he lifts his left leg with his hands. The right leg can be moved. Passive motion is painless in all directions. The lightest tapping on the patellar tendon gives an exaggerated kick. This is present on both sides. A marked kick can be obtained by tapping the quadriceps just above the knee. There is ankle clonus on both sides, more marked on the left. There are hyperesthetic areas on the lower left leg and more or less anesthesia on the lower right leg, however parts will be hypoesthetic at one time and hyperesthetic at another time during the examination. The lower left leg is hypersensitive to heat and cold, and on the thigh the two are easily differentiated. The lower right leg below the upper third is anesthetic to heat and cold and touch. There is no atrophy of the legs. He moves the toes on both feet but he can not flex the thighs on the abdomen. The left leg is weaker. There is also weakness of the extensors and flexors of the legs. The abdominal reflexes at first were not obtained, but during the examination became active. The cremasteric reflexes are absent. The back is held stiffly and the neck is slightly stiff. Kernig's sign is present on both sides. The plantar reflexes are normal.

The condition gradually grew worse. On the 8th the knee jerks were not so active and no ankle clonus could be obtained. The sole of the left foot was hyperesthetic, the right analgesic. He was unable to move the toes or feet and the muscle sense was lost. All plantar reflexes were absent. The lower abdomen was analgesic to a point 6 cm.

below the umbilicus, hyperesthetic for a zone of 12 cm. above this area (see chart), then sensation gradually became normal and equal on the two sides. The lower abdominal reflexes were absent but the epigastric reflexes were active. The paralysis of the legs was flaccid in type and fibrillary twitchings were seen in the muscles of the right thigh. The back was still rather rigid. There was no tenderness along the spines but there was a

6th to the 11th dorsal spines was made and the cord was exposed. The cord completely filled the canal and had a mottled pale gray and reddish gelatinous appearance. At the level of the 10th spine there seemed to be a constriction which was dense white in color and was thought at first to be a real constriction. Later this was found to be the only portion of the cord which showed in the wound the rest of the cord being overlaid with tumor masses lying posteriorly and laterally. While the wound was being stitched the patient suddenly ceased to breathe and all efforts at resuscitation were of no avail.

An autopsy was performed 24 hours after death. The following is an abstract of the notes: Autopsy No. 681. Anatomical diagnosis: Multiple tumors of the spinal cord, probably sarcomata, and congestion of all the internal organs.

In the midline of the back between the 6th and 11th dorsal vertebrae is a recent incision. The laminae and spines of the corresponding vertebrae have been removed. The dura is sutured with interrupted silk sutures. On cutting these the cord is exposed in the canal. The cord was removed in its whole extent. Occupying an area from the 5th to the 11th dorsal vertebrae, on the dorsal and dorso-lateral surface beneath the pia were several small oval tumor masses of a gelatinous yellowish-white color and somewhat soft consistency. The largest measured 4 cm. in length. Between the tumors the white cord is seen and is somewhat edematous. The ventral surface is smooth and free from tumor growths. Except for congestion the brain was normal. All the internal organs are congested. No other tumors were found after careful search.

Portions of the cord with the tumor masses were fixed in formalin and stained with hematoxylin and eosin. Under the low power one sees destruction of the whole of the postero-lateral half of the cord with some distortion of the cord. The tumor occupies the portion of the cord which is destroyed. The central canal is slightly dilated and pushed beyond the median line.

Under high power the tumor is seen to be composed of small, uniform, round cells having vesicular nuclei which almost completely fill the cells and many nuclei show mitotic figures. The tumor cells are seen to be infiltrating into the substance of the cord almost to the central canal, while scattered tumor cells are found in the gray matter of

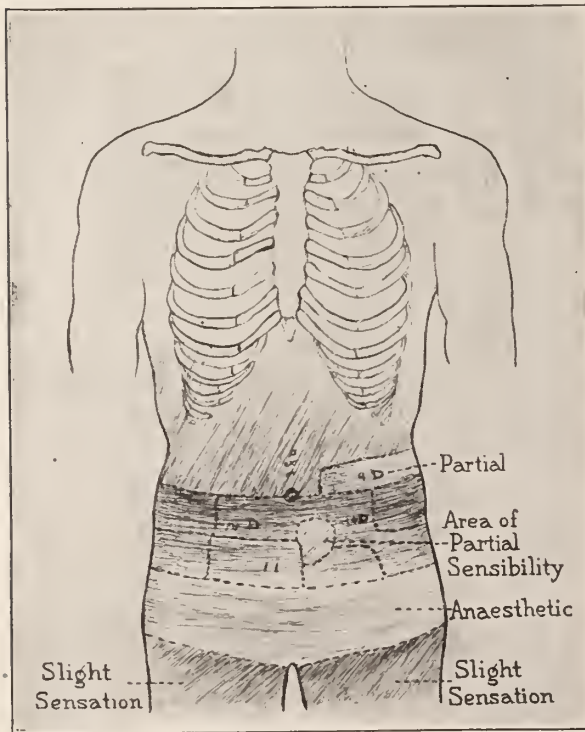


Plate I.

Showing the areas of anesthesia, partial anesthesia, and hyperesthesia on the skin of the abdomen and upper thighs.

definite zone of hyperesthesia above the level of the 11th dorsal vertebra. Kernig's sign was still present, but less marked on the right side. The neck was stiff, the pupils were equal and reacted normally. All facial, shoulder girdle, and arm muscles were competent and had normal sensation.

There seemed to be no doubt that there was rapidly increasing pressure on the spinal cord, probably tumor, and after consultation with a surgeon it was considered best to perform laminectomy and relieve the tension. The signs pointed to localization of the pressure below the 9th or 10th dorsal spine.

July 9th. Operation (Dr. J. L. Yates.) Ether anesthesia. It was difficult to get the patient under the anesthetic. An incision extending from the

the opposite side of the cord. It is a small round-celled sarcoma.

Tumors of the spinal cord are not so uncommon. Multiple tumors, however, are rather unusual although one finds in the literature a number of cases reported. The case reported here is the only one in the past four years among over 7200 admissions. The tumors of the spinal cord have been classified by Bruns as follows:

I. Tumors which originating in its envelopes, secondarily affect the spinal cord.

- (a) Vertebral tumors arising from the spinal column or the soft tissues immediately surrounding it.
- (b) Intravertebral tumors, which may be divided into two classes in accordance with their relation to the dura mater.



Plate II.

Low power drawing of one of the tumor masses of the cord.

1. Extradural tumors originating in the periosteum of the vertebrae, the outer layers of the dura mater, or the fatty areolar tissue of the epidural space.
2. Intradural tumors originating from the inner layers of the dura mater, the arachnoid, the ligamentum denticulatum, the spinal roots, or the pia mater.

II. Intramedullary tumors of intrinsic spinal origin.

Gowers, in his Text-book on Diseases of The Nervous System, says, "Multiple tumors outside the cord are sometimes very numerous. They are usually sarcomata, and spring from the membranes and sheaths of the nerve roots. They are various in size, ranging from that of a hazel-nut to that of a pin's head and many very small growths are often scattered among the nerves of the cauda equina. In some cases of this character similar growths have existed in the cerebral membranes."

The sarcomata of the cord may be diffuse or localized. The former is usually of the round-celled type and is characterized by a tendency to envelope more or less of the cord in a cylindrical covering. It springs from the leptomeninges and is usually less luxuriant on the ventral than on the dorsal and lateral surfaces of the cord. It may cover the whole length of the cord and invade the cranial cavity. The cord is usually softened on account of the interference with its blood supply.

An interesting feature in the diagnosis of tumor of the spinal cord is the character of the spinal fluid removed by lumbar puncture. The fluid is usually clear, that is, it does not contain blood or pus, but it has a distinct yellowish color, the xanthochrome fluid, it clots spontaneously and contains usually an increase in cells.

In the case here reported this sort of fluid was obtained and was a distinct aid in diagnosis. Just how to account for the presence of staphylococci in the spinal fluid we could not determine. They were not a contamination for they were both extra- and intracellular and were grown in pure culture. They could have had little or no influence on the course of the disease as there were no fever and no symptoms which could be attributed to meningitis.

The tumors must have been present in the cord for some time but they gave no evidence of their presence until their size interfered with the blood supply and produced edema of the cord. The gradually progressive paralysis and anesthesia in the legs are easily explained on this supposition. The patient dated his trouble from a definite strain and this may have been the exciting factor in the production of the changes in the circulation and the consequent edema.

PREOPERATIVE TREATMENT OF CARDIO-VASCULAR DISEASE TO CONSERVE THE AFTER-LIFETIME OF CHRONIC SURGICAL PATIENTS BY A PRACTICABLE HOME-MADE NAUHEIM METHOD. DIAGNOSIS WITHOUT INSTRUMENTS OF PRECISION.

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Every community is too often shocked by the sudden death of persons of great usefulness who were last seen in apparent perfect health. It must

not be forgotten that this is an age of heart defects and that a surgical operation on persons past middle life is often the last straw to a breaking compensation as much as is any unusual and violent exertion which overtakes a degenerated cardiovascular mechanism. Death may not be immediate but complete recovery to the preoperative condition is impossible, other breakdowns occur more readily and several years of the most valuable part of a life are lost. The circulation of all persons over forty requiring operations for chronic surgical conditions should be thoroughly investigated and readjusted if necessary before operating. Ordinary methods of examination do not reveal dangerous uncompensated cardiovascular disease as the heart sounds and dimensions may be perfectly normal, and ordinary pre-operative preparations do not restore the lost physiologic balance in the slightest. The world is too full of "nervous wrecks," as results of precipitate surgery.

The regulation of errors of circulation by physiologic re-education (Bishop) can now be made in most instances with nearly the same exactness as obtains in the adjusting of an intricate mechanical device. In spite of even great structural defects of the circulatory system it is possible to so correct the physiologic activity of the body that life can go on long and happily. That both the medical profession and the public are still blind to the glaring danger signals of chronic heart disease, to chronic metabolic degenerative disease of the whole body, and to the fact that it is usually remediable is incredible; all too often a sudden death from apoplexy or "heart failure" is the first intimation of the real trouble.

The following original estimates taken from official records are quoted with the permission of the author, Dr. Louis F. Frank, from his as yet unpublished "Medical History of Milwaukee from 1834 to 1914," and if other growing cities show similar statistics the increasing seriousness of heart and allied disorders is not being exaggerated. From 1870 to 1891, a period of 22 years, the average death rate per thousand from heart disease in the city of Milwaukee was 0.449; from 1891 to 1914, 22 years, the present population being 400,000, the average death rate was 0.896 or an increase of 99.6 per cent. From 1870 to 1881 it was tenth in order of frequency as a cause of death; today it is third, being ranked only by pneumonia and pulmonary tuberculosis. Another significant

estimate of Dr. Frank's for this same period is that the often allied trouble, nephritis, has advanced from seventeenth to sixth place in the list of causes of death.

Klemperer states that in a comparatively short time he examined fifty-one medical men between the ages of 28 and 40 who showed beginning vascular disease, and if this paper will attract the attention of even a few of the medical men who don't stop, look, and listen, in the presence of danger, to some symptoms in their own persons, it will have been worth while. In a personal communication the most eminent internist of America states that "The great fault about people dying of cardiovascular disease is the fact that 90% of the physicians all over the country including those of the cities do not examine their patients in any way. The simplest instruments of precision and diagnosis or the use of no instruments at all provided the doctor would obtain a careful history and then make such examination of the heart as any novice could, would reveal the condition. This non-recognition of cardiovascular disease is no worse than it is in reference to tuberculosis or any other disease which if recognized early would save not only lives but much invalidism."

The efforts to better the race through eugenics, to reduce infant mortality, to stamp out tuberculosis may save the youth of the country who may never amount to much in the world, but it is far more important to society to save the man and woman of forty, those who have passed the test of "the survival of the fittest," those whose efficiency has been proven, the mature and trained brainworkers who bear the stress and weight of our modern life. It always seems a great pity when such are struck down before their time, but the pity of it is that much of it is unnecessary and preventable. With proper care the biblical age of man can be extended 20 per cent.

Early diagnosis and a drugless correction of chronic vascular disease wherever it is found is possible even without the ideal conditions of Nauheim. The Nauheim treatment is one of the good things that has survived for twenty years the most relentless analysis and the discovery of its principles now enables one to get almost the same results anywhere as at the Spa itself. Alleged Nauheim baths are carried on in many of our health resorts, sanatoria, and in several cities, but so far a complete and exact technic has not been evolved

for the use of the general practitioner. The essentials for success in a home treatment are, that the physician must qualify himself in its details, the patient must enter into the spirit of the treatment, and the rules must be rigidly adhered to, or failure is certain. Home surroundings are often adverse to keeping up the treatment; if the patient does not put himself entirely under his physician's care, complete the two months' course, and be willing to put forth an amount of effort corresponding to the natural difficulties, he must expect so much the less benefit. Although in general a home treatment with its business and domestic drawbacks is inferior to one at a beautiful and restful resort, free from those cares, few physicians or patients can afford to go to Europe or even to an American resort, and as home treatment can be made so satisfactorily this paper aims to encourage the home method by an attempt to describe its details so plainly that those who wish it can apply it without difficulty. Any person who will obey orders exactly and methodically and will give intelligent aid to his physician can get remarkable results at home. Many go to Europe who could be better treated here. Those who can not appreciate the value of anything not foreign or that does not cost large sums of money, and those who are surrounded by unavoidable harmful business and domestic worries and who can afford the trip abroad, should not attempt the home treatment. I can support the testimony of those who have studied the subject at Nauheim, in that I have seen a low pressure elevated and a high pressure greatly modified with a restoration of physiologic balance, and further, I have seen the same occur when the essentials of the treatment are carried out at home. In the greater number of cases to which this treatment is applicable the recovery of heart power and the improvement in general health are so enduring as to justify the return of the patient to an active life, and it is par excellence the pre-operative treatment for chronic surgery. There are thousands of graduates of Nauheim who have had their life-time extended fifteen and twenty years.

SYMPTOMS.

There is altogether too much deference for so-called scientific work wrongly limiting the term to laboratory methods and to the use of complicated apparatus for precise diagnosis. This is a stupid state of affairs and many specialists, by presenting

the refinements only, do not help the exasperated general practitioner in the care of his heart cases. If clinicians allow the laboratory and research men to monopolize the field, the art of medicine as it affects the comfort and longevity of the individual will not progress.

The mechanism of a perfect cardiovascular system is silent and symptomless to its owner, but the voices of a disordered circulation are loud and unmistakable to at least ten per cent of physicians. Any physician, no matter what his training, without even the stethoscope, or any intelligent layman, should be able to make a fairly exact diagnosis of cardiovascular disease from the symptoms alone. Subjective symptoms predominate; the physical signs are often obscure; both may suggest almost any disease; vascular degeneration may cause anything from a fleeting dizziness to gangrene of the extremities, but there are a few cardinal signs that point unerringly to the trouble. Recognition of presclerosis is most important because of the brilliant results from treatment; by the time the diagnosis is easiest the treatment is most difficult.

Every medical man should have the little books of L. F. Bishop, W. Bezly Thorne, and O. T. Osborne, and the oration by C. L. Greene in the *Journal of the American Medical Association*, August 31st, 1912, from which many of the following data are taken.

Heart weakness makes itself known in three principal ways and each of these should suggest the organ that is at fault; shortness of breath; swelling of the feet; exquisite tenderness on deep pressure over the heart center of the sympathetic ganglia above and to the left of the umbilicus; and tenderness over the liver. Pain may be absent a long time. The pulse may be increased or diminished; great slowness may be due to irritation of the vagus but more often to some poison like lead or bile. The high color of some people with heart disease often gives a false appearance of health; it is a stagnation of blood in the veins that causes blue lips and a high color of the face. Lung and stomach symptoms due to internal congestions are relieved only by heart internal congestions are relieved only by heart treatment; congestions of the kidneys simulate disease of those organs but disappear entirely under treatment to the heart. Many a patient with circulatory debility has been accused of being a neurasthenic and an hysteric; many are treated for gastric or intestinal trouble, muscular rheumatism,

myalgia, malaria, or general debility when the difficulty is really cardiac tire from cardiac muscular weakness. The pulse is not necessarily irregular, the heart may show no manifest enlargement and no murmurs and yet many of the above symptoms will disappear when the heart is aided or given rest. A slight exercise test for the heart will often demonstrate weakness or inability to sustain effort when the examination of the patient after some rest or without any exertion would seem to show that the circulation was perfectly normal. In weakened hearts the pulse, as shown by Shapiro, may be nearly as rapid in the recumbent position as in the standing, when it should normally be seven to ten less. Many an ache not only to the left but to the right side, in the left or in the right shoulder, over the liver, in the upper abdomen or up into the throat of uncertain diagnosis, will be corrected when the heart is given a little more physical rest by resting its owner, or by administering small doses of perfectly good digitalis. In fact with the causes of such disturbances so uncertain, the therapeutic test by digitalis is satisfactory in any number of cases. In this age of cardiac tire owing to the recklessness, speed and intensity of a high pressure life as well as of the carnival life, with which it is often combined, skilled physicians often postpone a diagnosis until after a week of digitalis and many times the improvement of the condition is so rapid as to be almost phenomenal. This argues for a more careful analysis in disagreeable internal sensations before we call the patient an hysteric, a neurasthenic or a malingerer. To be specific, if the patient complains of pain in any part of the chest or upper abdomen, of leg aches, of being weary or exhausted, of sleeplessness or of pains in the back of the head, we should investigate the cardiac ability besides ruling out all other causes of these disturbances. If there is hurried breathing after walking rapidly, climbing a hill or stairs and if after a period of a little excitement one can not breathe quite so deeply and feels something tight in the chest, the heart needs resting. Any exertion that increases the pulse rate means that for many minutes or hours the heart is contracting too rapidly; twenty beats per minute above normal means 12,000 extra efforts of a weakened heart in ten hours. The reflex disturbances in the upper part of the body from a damaged heart are as numerous and as characteristic as those from disease of the appendix or of the gall ducts. The auricles may

exhibit their symptoms in the axillae and shoulders; the ventricles in the lower thorax, upper abdomen, inner surfaces of the arm or ulnar side of the forearm and wrist, while pain from the aorta is referred to the neck and back of the head. In myocardial degenerations a Cheyne-Stokes respiration is occasionally an early symptom and a comparatively rapid loss of weight in persons inclined to stoutness, pallor and a swollen and congested appearance of ears and lips should tell even a layman that such are handicapped patients especially for surgical operations.

The signs and symptoms of chronic myocarditis and arteriofibrosis are, a progressive weakness, slight at first but noticeable on exertion by slight palpitation; precordial anxiety; mental confusion; a dry tickling cough; nose bleed; leg weariness; and mental tire; mild stimulants such as coffee affect the heart more than before; there is sleeplessness and indigestion; there may be mental irritability and even mental deterioration. At rare intervals, and most important, is the irregularity of tension in the early stages which may give rise to temporary unconsciousness, paralysis, or simply to clumsiness of a limb. Slight edemas of the lower extremities may occur; the amount of urine may at first increase and later diminish and show some albumin; the pulse intermits occasionally and may become irregular later. Not infrequently a heart with fibrosis acts perfectly until some sudden exertion breaks it down; such a heart rarely regains its former strength but a compensation may occur to be more easily broken later. Slight pains in the cardiac region or anywhere in the chest become frequent and there may arise a dislike to lie on the left side. There may be no real pains but the patient becomes conscious for the first time in his life of his heart or of something unusual in the front of the chest. If these symptoms develop late in life, or at any age, with other symptoms of advanced sclerosis or senility, although little can be expected from treatment, there is always a possibility of error in prognosis and a thorough test of the Nauheim methods should not be withheld. Whenever a cardiac degeneration is certain the sooner it is tactfully disclosed to the patient that his ability is restricted and that his life is narrowed the better it will be for his future.

The beginnings of the symptoms of arterial hypertension that are not always noted by the patient are, the inability to relax from business as readily

as formerly; increased rapidity of doing the simple things of life, such as eating; an increased effect from tea, coffee, alcohol and tobacco; a diminished ability to fall asleep readily; to sleep without dreams or turning and tossing in bed; an occasional increase in the amount of urine or an increased frequency of urination; increased irritability or an aggravation of any disagreeable trait. The symptoms that are noted by the patient are, a tendency to shortness of breath on slight exertion; a feeling of fullness in the head at times, especially on leaning over or on any sudden movement; insomnia; an air hunger; slight waves of dizziness; pains over the heart and a dislike of any constriction around the neck or the abdomen. Irregularity is usually noticed and when the right heart is strained the sensation is sometimes described as if an animal were moving under the breast bone. Anything wrong with a patient's heart disturbs his peace of mind more than the complaints of other parts of the body; he becomes more inquisitive and introspective about it and if he becomes unreasonably excited he increases his tension still more.

The cardinal indications of circulatory failure are, shortness of breath, dropsies and visible congestions or anemias. In elderly people one of the most frequent of the obscure symptoms is that of head noises referred to the ear such as puffing or blowing sounds which are exceedingly annoying, particularly at night, but which subside almost entirely when the circulation is properly controlled; these noises are usually a symptom of secondary low arterial tension and are due to badly filled vessels of the ear. Another obscure symptom, which is often overlooked, is a slight attack of paralysis consisting of temporary loss of power on one side of the body such as clumsiness of a leg or an arm; if on the right side, certain words of the speech may be missing which the patient often regards as a temporary loss of memory; in such attacks an impending thrombosis of cerebral vessels must be excluded. There is also a class of obscure symptoms like a sciatica or a chronic neuritis after edemas which is very difficult to relieve. Nose bleed is frequent and so are congestions, especially those of the liver which develop gradually and cause functional derangements of liver and stomach, and those of the lungs with water in the pleural cavities. Acute mania and more often chronic mania occur; and in elderly people changes in disposition with affections of memory and impairment of judg-

ment. In persons past maturity, general convulsions can occur which may be promptly relieved by correction of the circulation. Abnormal sensations in the extremities are not infrequent, such as numbness, tingling of the hands and feet, formication of the legs, coldness of the hands and feet, cramps of the muscles at night and a tendency of the extremities "to go to sleep." All of these may be pure neuroses but often enough there is a circulatory element in their causation that can be demonstrated by appropriate treatment; the therapeutic test will decide; a few doses of nitroglycerine have temporarily cured many cold extremities and relieved most of the above symptoms. Long standing arteriosclerosis with high pressure shows periods of great depression with severe occipital headaches, nausea and sudden vertigo, due to cerebral irritation, till these symptoms become constant; then memory fails, insomnia ensues, mere living becomes an overstrain and it often takes a sudden death to reveal the true trouble to 90 per cent of physicians. Gradual loss of mental vigor and bodily tone, melancholia and other nervous symptoms present the well known picture of the average case of established arteriosclerosis; the disease of the day and very common among business, public and professional men, pre-eminent for the use of their brains, as well as among society women and the overfed, overstimulated, and underexercised generally.

The worst possible combination is when the vessel tension is too high and the heart tension is too low; but when the tension is high in the heart and low in the vessels the symptoms are alarming but not very dangerous except in extreme cases. From the practical standpoint it is very important to distinguish between the two great groups of cases which may be called the low pressure cases and the high pressure cases, and a third group of secondary low pressure cases in which there has been a preceding high pressure which usually results in a low pulse pressure.

It would seem that with the foregoing collection of symptoms to choose from almost anyone should be able to make at least a presumptive diagnosis of cardiovascular disturbance; one that can be confirmed or disproved by either the usual methods with stethoscope, pleximeter and hammer, sphygmomanometer and the X-rays or by the more modern instrumental miracles such as Meara and Crehore's registration of heart action by light interfer-

ence rings, Joachim's photography of both heart sounds and murmurs improved by Weiss and Ohm, Einthoven's electrocardiographic records of the electric action currents of the heart, Rautenbach's graphic records of left auricular contraction by esophago-atriography, Janowski's simultaneous records from both right and left auricles by means of the venous pulse and the esophageal bulb or a record of the heart sounds by a modification of Strauss' turgosphygmograph. These are only a few references to the astonishing activity of the investigator but if the clinician will continue to calmly and rationally interpret the signs and symptoms which stick out all over his patient and to apply the remedies, not dismayed but aided by the research man, he will continue to be the main factor in relieving diseases of the circulatory system and in postponing the death of his patient.

TREATMENT.

In the evolution of circulation from a channel in which a fluid ebbs and flows irregularly, to the complex four-chambered organ of man with its multitude of arterial extensions we find that the muscular layer of the blood vessels exercises supreme control over the circulation. In the physiology of its activity is found a property derived from the nervous system, and called by Bishop "muscular tone," which controls both voluntary and involuntary muscle fibres. The commonest pathology of high arterial tension and premature cardiac degeneration is the overproduction of muscular tone by a nervous and high pressure life; the control of this condition is entirely in the hands of the individual if he is properly advised.

True primary low pressure cases in which the pressure producing mechanism has failed and in which there has not been a previous over-demand for pressure are only pathologic when the arterial is so little above the venous pressure that the organs are not properly supplied with blood; there are cases where the heart is perfectly able to produce more pressure but the peripheral circulation is so relaxed that it is not needed. The management of such cases may tax one's ingenuity, but when the valves are not defective and there is no arterial obstruction the condition is usually a heart weakness that yields in many cases to tonics, nutrition, and outdoor exercise; when due to valvular disease, prolonged rest in bed is essential in the early stages with gradual resumption of an active life to pre-

vent excessive compensation; drugs are inadvisable except in cases of long delayed compensation when digitalis is useful.

High pressure cases involve heart, vessels, kidneys, and the brain and are usually first seen when fully developed and approaching the time when the tension can no longer be maintained. If the underlying cause instead of the symptoms is sought out and treated much can be done in arresting cases that are not too far gone. All cases can not be treated alike; those secondary to mental strain are benefitted by plenty of good food and luxuries which are contraindicated in the gouty diathesis. In general it may be said that warm baths below body temperature are indicated in high pressure cases, and cold bathing is contraindicated, while warm and even hot baths may benefit low pressure cases. The benefits of the Nauheim warm baths in high pressure with a tendency to cardiac dilatation is as striking as is the injury inflicted on elderly people by cold baths.

No condition is so easy to remove temporarily by nitrites as high arterial tension; the iodide of sodium used persistently is beneficial when there has been established a tendency to high tension and progressive heart muscle degeneration. It is best given in an equal amount of water in doses of two to fifteen drops in half a glass of water after meals: ordinarily five drops can be taken for a long period but each patient may have a different tolerance. In regard to the use of nitrites for high tension, if nitroglycerine is used, an absolutely fresh preparation is essential; a healthy person should feel a throbbing in the head immediately after taking a tablet and this is the only test of an active preparation. It should be remembered that a nitrite is for the symptom and for temporary use only and that the patient's tension will be eventually increased under it without general measures. The vasodilators, however, are imperatively demanded for symptoms of disturbance of cerebral circulation; while for a rapid and high tension pulse digitalis gives best results.

The greatest danger is the terminal secondary low pressure; the problem, before this occurs, is to remove from the heart the demand for the maintenance of a high pressure, to avert the time, when exhausted, it can not maintain even a normal pressure. The management of secondary low pressure cases is, first, a correction of the circulation by drugs to give temporary relief; not an easy

matter as nitrites are, of course, of little use on account of the low pressure, and the heart muscle is not often in a condition to respond to digitalis, although a single large dose of digitalis at bedtime may be of most benefit, and sometimes digitalis combined with nitrates is helpful; second, an attempt to correct the health of the tissues concerned, by baths, exercises and diet. A slow pulse in this condition is a favorable symptom.

THE NAUHEIM BATHS.

Since 1885 when the observations of Professor Beneke and Drs. August and Theodor Schott were published, the strikingly beneficial effects of the Nauheim methods, by baths and exercises, have become increasingly apparent to the world. From a few visitors and less than a dozen bath rooms their vogue has increased until last year there were about 40,000 visitors and half a million baths were given during the official season which is from May first to September thirtieth, although some handsome bath houses are open in April and October.

The bathing springs are ferruginous very highly carbonated thermal-saline waters. The efficacious constituents are, the large amount of carbonic acid gas; the natural heat, 86 to 94° F.; the amount of thermal salt, chloride of calcium and other chlorine salts, 2.5 to 3.3%, of which 2.1 to 2.9% is thermal salt: the iron and arsenic constituents are not mentioned as important.

THE GENERAL EFFECTS OF BATHS AND MOVEMENTS.

The effects of the baths and the movements are similar although the baths are more adapted to cardiovascular degenerations. They lower the frequency and increase the action of the heart, lead to a revival and strengthening of the whole organism, probably by exciting the nerve endings of the skin which convey a stimulus to the central nervous system and the sympathetic system which together control metabolism; without this they seem to have a direct influence on the repletion of blood to all tissues of the body; the result is an elimination of morbid products while the impetus to metabolism restores lost tissue; the baths dilate the capillaries of the skin, slow the pulse, and lighten the work of the heart: the heat reducing influence is often followed by a reduction of adipose tissue, by an improved cardiac power and a better and more uniform flushing of the body by blood cooled in the bath; the cellular activity excited thereby experiences a stimulus which does not cease with the

bath and its first and most marked effect is seen on the heart and the circulation. Exercise and recovery in well regulated sequence, the physicians of Nauheim, and there are sixty of them, claim is the basis of all their physical therapy, especially of the bath treatment, and that they can meet all requirements for all cases is the foundation for their success. A rightly prescribed bath effects a tranquility of heart action seen in a slower pulse and a more energetic circulation which stimulates the whole organism, regulates the blood pressure, increases urinary secretion and improves oxidation and assimilation by deepening the respiration. It induces a sense of refreshment and invigoration shortly followed by an agreeable inclination to rest lying down for the hour enjoined as the inevitable sequel. With the general improvement often occurs a surprising elation in spirits. One of the more remote effects is pain or swelling of joints or of nerve sheaths which have been previously affected by gout or the so-called rheumatoid processes which endure for a few days only but may be reinduced by each increase of balneological strength. (Thorne.)

INDICATIONS.

As long as the myocardium does not exhibit too great degenerative changes success can always be attained by treatment. Where a reliable preparation of digitalis used as a therapeutic test has no effect, Nauheim also can help no more. The range of morbid conditions relieved is wide; all of the articular and other chronic tissue changes formerly ascribed to uric acid excess, gout or rheumatism; chronic affections of the heart and blood vessels, except advanced cases of aneurysm; all of the neuroses in which the heart is involved; hyperthyroidism; anemia; congestion of the abdominal and pelvic viscera; the earlier stages of chronic affections of the spinal nerve structures; wasting neurasthenia; all are favorably influenced. The so-called rheumatic affections have always been one of the chief indications for the baths, but the investigations of Billings ten years ago which prove the necessity of the removal of any definite removable infection atrium before any permanent improvement can be expected in this class of cases, render any other therapy of secondary importance. The rehabilitation of the trophic and other nerve tissues is so lasting that progressive improvement in this respect may be observed for three or four months after the completion of a course of treatment.

Aortic regurgitation is a condition in which the baths and movements yield some of their best results. No conditions yield more readily and completely than those vascular degenerations which have not advanced to calcification or to irreparable fibrotic change. They are also invaluable in sustaining the heart in other conditions such as pregnancy, anemia, and in invalidism generally.

THE PHYSIOLOGICAL ACTION OF THE BATHS AND EXERCISES.

The briefest and most graphic account of the effect of these remarkable therapeutic agents is by Sir Philip Smiley (*Dublin Journal of Medical Science*, September, 1894).

"Take for example the four following phenomena: 1. The color before is purple blue in the hands and cheeks and feet, but after twenty minutes or so becomes red and the blue color gradually disappears. 2. The forehead, neck, ears, etc., are a waxy white, but become pink. 3. The rapid pulse slows and becomes full. 4. The increased area of cardiac dullness diminishes at times as much as an inch or more. These results are due to: 1. Increased arterial circulation due to the diminution of peripheral resistance. 2. Diminished venous congestion due to larger quantity of blood in the arteries. 3. Diminished work for the heart due to the free circulation of the blood in the arteries. There will ever be a feeling against this treatment until it is seen and believed to be true: 1. That the methods relieve the back pressure on the heart. 2. That the diminution in the size of the heart is due to the absence of excess of blood in its cavities. 3. That this is attained by there being more room in the arteries. 4. That the heart muscle gains in strength by having more room to contract. 5. That a contraction being more complete it takes a longer time thus making the pulse slower and at the same time fuller. 6. Being able to send on more blood it is ready to receive more and thus removes venous congestion. 7. The strength gained by the heart is due to the freedom to contract fully."

CONDITIONS WHICH GOVERN THE APPLICATION OF THE METHODS (THORNE).

As before noted the baths offer special advantage over the movements for the treatment of failure of compensation and vascular degeneration whether or not there be co-existing valvular lesions. In ex-

treme cases where complications forbid the removal of the patient from bed, modified movements to suit the case are of value in preparing the patient for the baths later, when the two may be combined. Labored breathing and a sense of constriction between the precordium and epigastrium in early immersions are probably due to the effort of the right heart to restore correlation of pulmonic and systematic circulation; rigidity of the coronary vessels resisting the increased systolic force and the general stimulus to arterial expansion may give rise to an angina. The action and the reaction should be especially noted by the physician; immersion produces contraction of the cutaneous vessels and in some cases a sense of cold followed by dilatation of the vessels and an afflux of arterial blood with a glow of warmth and a general rise of temperature of $\frac{1}{2}$ to 1° F. The due sequence of reaction on action is at the expense of the nervous energy in store. It must not be forgotten that a large number of the cases are actually neurasthenic. In some cases the peripheral vessels through degenerative changes involving loss of conductivity and for the time being incapable of transmitting an increased supply of blood may therefore contribute to a rise of intra-arterial pressure, a source of discomfort or even of danger to the patient. A sudden increase of arterio-capillary capacity, on the other hand, may be the cause of an embarrassment to a myocardium handicapped by structural changes from making an adequate systolic response. In the former case flushing, headache, excitement and insomnia may ensue; in the latter a sense of faintness or actual syncope. It can not be too emphatically stated that the avoidance of such drawbacks is absolutely within the control of the attending physician. A good reaction is followed not only by a glow of warmth but also by a sense of general comfort and mental composure. Frequently the reaction occurs within two or three minutes, but usually not till the patient lies down in bed for the hour's rest; if delayed beyond ten minutes after lying down it should be promoted by hot water bottles, more blankets, and a hot drink. Should such measures be unsuccessful the next baths should be warmer and milder and the patient's nervous system should be investigated. Among definite symptoms of reaction failure are, a sense of cold throughout the immersion and persisting after it, yawning, and nervous rigor. These are imperative indications

to modify the treatment but are by no means proof that it is inapplicable. Reaction can be cultivated into an endowment of infinite value to the patient. Enough has been said to show that these methods should not be lightly undertaken; their safe and beneficial administration requires a careful adjustment of means to an end and closest attention to matters of detail. The novice who sets himself to test their value and to pronounce judgment by experimenting on a few cases and who should fall upon the above mentioned cases is likely to be more than discouraged and to come to conclusions as unfavorable as they would be unwarranted. It is obvious that to commit this treatment to nurses, however well trained, without efficient medical direction would not be permissible; that it should be undertaken by unqualified persons on their own responsibility would be a grave abuse.

TECHNIC OF THE BATHS.

The following technic of baths and movements are the results of about 300 experiments during the past three years. The first bath should never exceed ten minutes at a temperature of about 95° F. If a sensation of cold persists more than one minute after immersion, with the patient perfectly quiet, or if it recurs, the temperature of the water should immediately be raised; the mineral strength of the water can be gradually increased as the baths agree with the patient; the duration of the bath can be increased, with its increase of strength and cautious reduction of temperature, but never to exceed twenty minutes in serious cases; every second or third bath should be omitted at first; and later on three or at most four baths may be taken in succession.

The variants of the baths enable the physician to meet any indication in any individual case; the duration is from three to twenty minutes and the temperature ranges from 95 to 80° F., and in some cases it is still further lowered; 86° F. will be found to be the best working temperature for the average case; the temperature, however, must be made agreeable especially to nervous patients until they are satisfied that instead of harm there is far greater benefit in a lower temperature; at the end of a bath its temperature will be one to two degrees lower. The immediate effect of the first few baths may be a sense of oppression over the heart, under the influence of which the patient breathes slowly and deeply for two or three minutes; soon

a glowing sense of warmth should be experienced; the general arterial capacity, systemic and pulmonary, is increased, and without loss of blood the relief of a general bleeding is afforded an overloaded and laboring heart.

That the nerve centers are brought under a powerful influence is attested by the remarkable trophic changes and the improvement in nutrition which follow a course of these baths unaided by other therapy or by the internal use of mineral waters. Since Nauheim's earliest days her physicians have insisted that almost identical effects may be derived from artificial baths but so far no publication giving the exact proportions of all ingredients of the various baths according to the capacity of the bath tub to be used, designating the kinds and strengths of the chemicals to procure, and exactly how to prepare a bath, has been offered. All directions so far have been more general than specific and the hydrochloric acid invariably recommended is dangerously strong, invariably spoils the lining of enameled tubs, and has a reputation also for ruining plumbing. The most useless thing proposed is the expensive acid cake of the manufacturing chemist, a get-a-bath-quick-scheme, which has probably done more to discredit the method than anything else.

The bathroom should be heated to 70 or 80° Fahrenheit and one large and two small hot towels and a warm bathrobe should be ready at the end of the bath. The bath tub should, if possible, hold 50 or 60 gallons of water with the patient in. The fault of many modern tubs for this purpose is that their small size makes it impossible for a large person to lie down in them comfortably and be covered with water to the chin; when the overflow prevents this the outlet can be stopped up to increase the capacity of the tub to its utmost; if the tub has a "model" waste and overflow, withdraw the tube and wrap a strip of adhesive plaster around it over the holes. On a level with and close to the patient's face drive a nail on which to hang a watch and another nail two feet above the center of the tub on which to hang the fountain syringe holding the acid. The apparatus required are a weighing scale; a U. S. parcel post scale registering from one ounce to twenty pounds costing \$2.50 is very useful generally, but a spring balance kitchen scale, without a scoop, for \$1.50 will do; a glass graduate of one to sixteen ounces costing 70 cents; a small glass minim graduate of about 120

minims costing 30 cents; a four-quart cheap white enameled fountain syringe with 6 feet of tubing costing \$1.75; one number 12 imported German bath thermometer costing 25 cents; one small air or other cushion for a head rest, and a piece of board three-eighths inch thick, fifteen inches long and three inches wide to use as a measuring rod for depth and to skim off the floating impurities from the salt. The cost of all these should not exceed \$4 or \$5 and if one has a scale, not over \$2.50. The chemicals required for 30 baths of 50 gallons each are, one barrel of common salt costing \$1.50; 50 pounds of granular commercial calcium chloride which can be bought in 400 pound drums for one cent a pound and can be retailed for from three to five cents; 50 pounds of crude bicarbonate of sodium, costing two cents a pound in 112 pound kegs, which can be retailed for from four to five cents; one carboy of 100 pounds of commercial acetic acid 28% strength, the so-called "Standard Number 8," which should not cost, without the container, more than \$5; a bottle containing four and one-half ounces of ferrous sulphate (copperas), one and one-half ounces of manganous sulphate, forty-four ounces of water and one ounce of hydrochloric acid—this is "Solution A" and should not cost over \$1.00; a bottle containing two drams of sodium arsenate in fifteen ounces of water labeled "Solution B" which should not cost over fifty cents. The total retail net cost of these chemicals for thirty baths of fifty gallons each should not exceed \$14.00 or less than fifty cents per bath. Hydrochloric (muriatic) acid of 18° Baumé costs only about \$2.00 net for a carboy of 100 pounds but it should never be used except in wooden or paint lined tubs, diluted with four or five parts of water, and handled with great care by some responsible person, or the patient is apt to get burned and the plumbing may be damaged. There is no danger whatever from the 28% acetic acid.

One should contrive to get as much water as possible for a bath by stopping up the overflow if necessary. First, measure the capacity of the tub with the patient in and submerged to the chin; after he has left the bath and the water has settled, mark its level on the side of the tub, or place the piece of board in the water vertically and mark its side at the top of the water; this will be the measure for all baths: next, let the water escape, close the waste and fill the tub again to the mark

by catching the flow in a vessel of known capacity to ascertain the exact number of gallons in that bath in order to prepare it accurately according to the tables of weights and measures. When the physician prescribes the exact amount of each ingredient on the bath card, fill the tub half full of hot water and dissolve in it the salt, the calcium chloride, solutions A and B and skim off the impurities with the board and a cloth; hot or cold water is now added carefully to the desired amount, stirring with the bath thermometer, till the water is the correct temperature; as a salt bath it is now ready for the patient. If it is to be an effervescent bath, place the soda in a small pan or bowl and then lay it on the middle of the floor of the tub by sinking the pan of soda to the bottom with one hand and carefully pushing the soda out with the other hand; half of the soda should lie under the body of the patient; when this is done carefully the soda will all be left on the bottom of the tub. Next, put the acid in the fountain syringe, fill it up with warm water and hang it on the nail provided; bind a small stick twenty inches long to the end of the syringe tube, which should have an automatic cutoff, and the bath is ready for the patient. Should the tub be too long an ordinary stone crock sunk at one end makes an excellent foot brace and a small cushion properly placed makes the best head rest. The patient must lie in the bath without any exertion, in perfect comfort and submerged to the chin. Being sure that the watch is on its nail, the patient lowers himself carefully into the water, notes the exact time, opens the valve or cutoff on the tube and directs the flow of the acid towards the soda in such a way as to get a steady effervescence, avoiding a too great development of gas at one place; one soon becomes skilled in this detail; in three or four minutes all of the acid will run out and gradually all of the acid and soda will contact and form gas that, in strong baths, will be active at the end of twenty minutes; this action can be accelerated, if necessary, by gently agitating the soda with the hands and feet; two minutes before leaving a bath one should thoroughly stir the remaining soda to get the full benefit of all of the gas. If the patient's head is slightly above the edge of the tub there is no danger of inhaling too much of the gas. A successful bath effervesces steadily, briskly, and audibly and a layer of bubbles forms on the skin.

During the first few minutes one may notice a

TABLE 1. WEAK BATHS.

	A	B	C	D	E
Water, in gallons.....	20	30	40	50	60
Salt (Sodium Chloride), in pounds.....	2	3	4	5	6
Calcium Chloride, in ounces.....	6	9	12	16	19
Solution "A" (Iron), in ounces.....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Solution "B" (Arsenic), in minims.....	36	54	72	90	108
Sodium Bicarbonate, in ounces.....	6	9	12	16	19
Acetic Acid, 28% in ounces.....	15	23	$30\frac{1}{2}$	41	$48\frac{1}{2}$
Muriatic Acid, 18° Baumé, in ounces..... (Not advised for home use.)	9	$13\frac{1}{2}$	18	24	$28\frac{1}{2}$

TABLE 2. MEDIUM BATHS.

	A	B	C	D	E
Water, in gallons.....	20	30	40	50	60
Salt (Sodium Chloride), in pounds.....	3	$4\frac{1}{2}$	6	$7\frac{1}{2}$	9
Calcium Chloride, in ounces.....	10	15	20	25	30
Solution "A" (Iron), in ounces.....	$\frac{3}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{7}{8}$	$2\frac{1}{4}$
Solution "B" (Arsenic), in minims.....	54	81	108	135	162
Sodium Bicarbonate, in ounces.....	10	15	20	24	30
Acetic Acid, 28% in ounces.....	$25\frac{1}{2}$	38	51	61	76
Muriatic Acid, 18° Baumé, in ounces..... (Not advised for home use.)	15	$22\frac{1}{2}$	30	$37\frac{1}{2}$	45

TABLE 3. STRONG BATHS.

	A	B	C	D	E
Water, in gallons.....	20	30	40	50	60
Salt (Sodium Chloride), in pounds.....	4	6	8	10	12
Calcium Chloride, in ounces.....	12	18	22	32	38
Solution "A" (Iron), in ounces.....	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Solution "B" (Arsenic), in minims.....	72	108	144	180	216
Sodium Bicarbonate, in ounces.....	12	18	24	32	38
Acetic Acid, 28% in ounces.....	$30\frac{1}{2}$	46	61	82	97
Muriatic Acid, 18° Baumé, in ounces..... (Not advised for home use.)	18	24	36	48	57

Although their therapeutic value has not been emphasized, the iron, which colors the water brown, and the arsenic, as found in the Nauheim waters, are added to these artificial baths because Professor Sommer believes that there is a two-fold action not hitherto mentioned; first, the bath being of far greater density than the blood produces a strong outward osmotic pressure which brings the blood to just beneath the superficial layers of the skin where it shows through in a bright pink color and

is separated from the salts and gas in the bath only by the thin porous epidermis; therefore, by the double flow of osmosis no doubt some water passes from the blood to the fluid of higher density in the bath and the salts in solution in the bath pass into the blood; second, the irritation to the skin of the salts and chemicals in the bath so increases its absorptive power that the entrance of both salts and gases into the blood is further augmented; the normal skin absorbs only the gases.

THE SCHOTT THERAPEUTIC MOVEMENTS.

Physician and patient must lay aside any preconceived notion that these movements are a form of muscular exercise. They are in no way related to gymnastics. They are a heart saving method by a physical therapy, scientifically regulated by Drs. August and Theodor Schott, to produce periodical and controlled stimulation of the heart muscles, which obey the natural law of the relation between the resisted movements, nutrition and growth as surely as do other muscles in which such changes are apparent to the eye. Movements without design weaken the heart but movements with design strengthen the heart. They regulate the muscular tone of the heart and the arteries and produce a surprising amount of permanent improvement in circulatory diseases. These movements are infinitely superior to drugs but they must be made with great deliberation, with slight exertion, and no trace of fatigue, or, simple as they seem, harm instead of benefit will result. Physical exercises by means of mechanical appliances are entirely foreign to their principles and form no part of the system. They bring into successive action every system of voluntary muscles in the body slowly and evenly and with a definite and uniform effort on the part of the patient which brings the relations of cardiovascular performance, function, and repair into obedience to this therapeutic system, and yields results hitherto unknown. The essence of these movements lies not only in the building up of power, but above all else in the judicious distribution of power.

This therapy is best administered as at Nauheim, by a trained operator who strictly observes and enforces the following rules:

It is beautifully illustrated in Dr. L. F. Bishop's book by two expert operators of Nauheim, one of them acting as the patient.

1. Each movement is to be performed slowly and evenly.
2. No movement is to be repeated in the same limb or group of muscles.
3. Each movement is to be followed by an interval of rest.
4. The patient's breathing must not be accelerated, and the operator must watch the face for the slightest indications of: (a) dilatation of the alae nasi; (b) drawing of the corners of the mouth; (c) duskiness or pallor of the cheeks

and lips; (d) yawning; (e) sweating; (f) palpitation.

5. The appearance of one of the above signs of distress should be the signal for immediately interrupting the movement and allowing the limb to relax until the patient has recovered.
6. The patient must breathe regularly and uninterruptedly, and if there is any difficulty he must be instructed to continue counting in a whisper during the treatment.
7. No portion of the body is to be so constricted as to compress the vessels in the slightest.

The energy of the movements and the resistance are gradually increased week by week, and the results are striking. In dilatation the long oblique diameter of cardiac dullness will diminish by three-fourths to one and one-quarter inches, and perhaps as much as two inches in the hepatic dullness if the liver is congested. The patient experiences a general sense of relief, he breathes more easily and deeply and feels that a load has been lifted from his chest. All of this gain is not permanent; by the next day the dilated and congested organs tend to return to their former condition, but not completely, so that at the end of a few weeks the dilated heart and the congested liver may have either recovered their normal dimensions or such compensation and resolution as to make them practically sound.

What is true of the baths applies equally to the movements except that the action of the latter is not so rapid; in each the following immediate results may be looked for in a damaged heart; retardation of the pulse and increase of its volume; contraction of the heart, the right side first, which causes the peculiar precordial sensations often noted by the patient at the beginning of the treatment; slower and deeper breathing, with a sense of lightness and relief in the chest; a better color of the lips and cheeks, and an improved facial aspect; when congested, a notable diminution of liver dullness; and in a few days a marked and often long maintained diuresis. In the course of the first few movements a bruit due to stenosis may become accentuated; before they are finished, murmurs from valvular incompetence, other than those caused by actual lesions, may be diminished, then modified to duplication, and finally obliterated; heart sounds barely audible may be heard distinctly, and an apex beat that could not under any circumstances be detected, may become appreciable to

touch. The increase in the general arterial capacity is not less striking; within a few minutes the size of the radial artery, gauged by the touch, may seem to have doubled, and at the end of the sitting, cheeks and fingers that were cold and either white or bluish-red glow with warmth. The increased capacity of the peripheral vessels enables the heart to take up its slack and to empty its cavities at each stroke, while at the same time the ganglia which control it seem to enforce a tonic contraction which renewed day by day establishes a better habit of function and repair. The general health, the appetite, the sleeping improve, a mental depression gives way to cheerfulness and these results which can be made permanent are incontestably superior to those from treatment by drugs.

These movements are all important and are the one factor which may most readily be misused. Bishop's belief is that the movements and baths inculcate a "physiologic re-education" that restores the proper activity of the musculature of the circulatory system; he explains their effects through a relationship between the tone of voluntary muscles and involuntary muscles. The movements seem so simple it is hard to realize how much they can accomplish, but it is easier to comprehend when the supreme importance of muscular tone is considered and the possibility of reaching the involuntary muscular fibres of the circulatory system through the voluntary muscles is admitted. The diagnostic and prognostic value of the movements are considerable. Early stages of dilatation, the existence of which might otherwise be difficult or impossible to recognize, may be detected; more pronounced dilatation may be readily differentiated from parietal hypertrophy, superimposed fat, and pericardial effusion. The measure of contraction induced by a few movements discloses whether an abnormal dullness is a heart dilatation or solid unyielding tissue. As regards prognosis valuable information is derived after a few days, from the rate at which cardiac dullness is reduced, by ascertaining before the bath or the movements, as the case may be, the degree of more than temporary contraction which has been secured. An unsuspected valvular lesion may also be betrayed while the movements are in progress.

When the movements are taken at home and without the aid of a trained assistant they should be made while undressed and lying in bed; if a Nauheim bath has been taken the previous night,

before getting up in the morning is the best time; if one has a wakeful hour in the night the movements will usually conduce to a sound sleep thereafter; yawning at these times, unless excessive, is probably due to drowsiness and need not prohibit them. The order in which they are taken is not important except that they are more easily remembered if the same order is always followed as in learning them. The time required for the complete series is about one and one-quarter hours including the necessary fifteen minute rest after them. It is not advisable to be awakened earlier than usual in order to make the movements as sleep is the best remedy for heart lesions that is known. The patient must constantly bear in mind that the test of their correct performance is the breathing, which must be watched during each movement; if it becomes even slightly hurried, if palpitation or any perspiration occurs he must relax and rest until perfectly quiet again and proceed with the next movement but more slowly and with much less force; under no circumstances is a movement ever to be repeated even though it has been improperly done. When they are being taken correctly the patient will notice at times that the breathing is deeper and fuller; this is an evidence that the heart, lungs and large vessels are being relieved of an overload of blood in the manner intended. If a muscular cramp occurs, stop at once, rest and go on to the next movement. These movements are not to be employed more than once a day but they can be practiced daily, when indicated, during one's lifetime. Before undertaking to instruct a patient the doctor should by personal practice familiarize himself with the movements until he knows them by heart; this will necessitate his going through them about twenty times on as many days without the notes or illustrations. The advantage of making the movements in bed and undressed is that the body and limbs are perfectly free and one is not likely to be interrupted; if there should be too much friction and resistance at first between the bed-clothes and the night dress, the latter can be discarded. Although the amount of description and illustration necessary to give an account of these movements seems formidable, nevertheless they are really quite simple and are readily learned. The important thing is not to underestimate their possibility for harm.

No two heart cases are precisely alike; many are

unable to do but a part of the series at the beginning with safety; others can not allow movement of some special part of the body at once. The physician must always personally instruct patient or operator or both on each point and should always be present when the first movements are given to prevent misapprehensions; as with other potent remedies, this agent may easily be converted into an instrument of mischief.

In the following descriptions of an original method of applying the Schott resistance movements the word "leg" means from the knee down; the word "thigh" from knee to hip, and "lower extremity" means both together; "forearm" means from the elbow down; "arm" from elbow to shoulder and "upper extremity" means both together. All movements except some of the upper extremities are made under the bedclothes. To make the first movements gently and with little resistance the lower limbs should be bare; later when more resistance is desired it can be obtained by wearing pajama trousers or underdrawers.

No. 1. Lying on the back; with the fists pressed gently together and firmly but not too firmly clenched and with the muscles of the upper extremities set, extend the upper extremities in a straight line in front of the body and at right angles to it (Fig. 1, a) and very slowly separate them, counting in a whisper and watching the breathing, until they press against the mattress (Fig. 1, b); then return to the starting position in the same manner, press the fists gently together, relax and lie perfectly quiet for at least one or two minutes or longer if necessary.

No. 2. Lying on the right side; extend the right lower extremity in a straight line, with set muscles, a little posterior to a straight line with the body (Fig. 2 and 4, a), watch the breathing and slowly drag the limb across the surface of the bed forward as far as it will go (Fig. 2 and 4, b), counting in a whisper; next backward as far as possible (Fig. 2 and 4, c), then forward again to a position a little anterior to a straight line with the body (Fig. 2 and 4, d); relax and rest two minutes; remain in this position for the next movement.

No. 3. Lying on the right side as above for the first half of this movement; count in a whisper; (the illustrations are for the second half or left side); clench the left hand firmly and with the left upper extremity extended, with set muscles,

close to the body (Fig. 3, a), slowly move it backwards as far as it will go (Fig. 3, b); reverse the direction and pass it forward close to the body, watch the breathing, and continue until the limb describes a complete arc (Fig. 3, c) back to the starting point; for the second half of this movement turn on the left side and perform the same motions with the right upper extremity as in Figs. 3, a, 3, b, and 3, c; relax one to two minutes and remain in this position for the next movement.

No. 4. Lying on the left side as above, count in a whisper and repeat movement No. 2 with the left lower extremity; relax two minutes.

No. 5. Lying on the back; with both upper extremities extended downward, resting on the bed, close to the body, with fists clenched and muscles set (Fig. 5, a), count in a whisper and slowly raise both limbs at the same time upward until the fists press against the head of the bed (Fig. 5, b); watch the breathing; then as slowly return downwards until the limbs press against the bed; relax one minute.

No. 6. Lying on the back; flex the legs to an angle of 45 degrees on the thighs with the feet and knees close together and the heel of one foot in advance of the other so that the internal malleoli, or ankle bones, do not touch (Fig. 6, a); with the hands outside hold the bed clothes down so that they are tightly drawn over the knees; counting in a whisper, begin the movement by slowly separating the knees as far as they will go, pressing the feet firmly together (Fig. 6, b), watching the breathing, and then as slowly return to the starting position; the necessary resistance is secured not only by holding the bed clothes over the knees but also by setting the muscles and by keeping the sides and soles of the feet firmly pressed together throughout the movement; relax about two minutes.

No. 7. Lying on the back; with clenched fists and the upper extremities extended downward alongside the body and pressing closely against it (Fig. 7, a), with set muscles, slowly move the limbs outward and horizontally (Fig. 7, b), counting in a whisper, until they meet and are pressed gently together above the head; return slowly to the starting point again, pressing the limbs slightly against the body and relax one to two minutes.

No. 8. Lying on the back; with the lower extremities extended in a straight line with the body and close together, with set muscles (Fig. 8, a),



Plate I.



Plate II.

watching the breathing and counting in a whisper, slowly separate them as far as they will go (Fig. 8, b), and then reverse the motion to the starting position; the weight of the limbs on the bed gives the required resistance and only moderate contraction of the muscles is necessary; relax one to two minutes.

No. 9. Lying on the back; with both upper extremities extended, muscles set and fists clenched, alongside the body (Fig. 9, a), slowly flex the fore-arms on the arms as far as they will go (Fig. 9, b), and extend back to the starting point; relax one minute.

No. 10. Lying on the back; with both lower extremities extended in a straight line with the body, and with set muscles, flex the feet only, upward as far as possible (Fig. 10, a), extend them downward as far as possible (Fig. 10, b), return to the starting point and relax one minute.

No. 11. Lying on the back; clasp the hands as follows; with the palm of the right hand on the back of the left firmly grasp the outer side and fingers of the left hand with the fingers of the right and grasp the ends of the fingers of the right hand with the fingers of the left (Fig. 11, a); when this grip has been secured thrust the clasped hands as far down in front as possible and close to the body, with the palms turned downward (Fig. 11, a); the motion begins from this position by slowly bringing the clasped hands upwards, keeping close to the body, counting in a whisper, and exerting an outward pull with the upper extremities (Fig. 11, b); gradually turn the palms outward or forward until at the end of the upward movement, which is as far as they will reach above the head, the palms will face upward (Fig. 11, c); watching the breathing, complete the movement by retracing the motion to the starting point; count in a whisper throughout and relax for two minutes.

No. 12. Lying on the back; with the right lower extremity slightly flexed place the hollow of the sole of the right foot behind and just above the heel of the left foot, the lower left extremity being extended in a nearly straight line with the body (Fig. 12, a); watch the breathing and begin the motion by slowly flexing the left leg on the thigh, resisting it with the right foot, as far as it can be flexed where it will leave the right foot; count in a whisper and continue the upward motion by flexing the thigh on the body as far as it will go and resist it with the hand and forearm (Fig. 12, b)

as follows: plant the left elbow against the mattress, close to the body, and receive the thigh between the thumb and fingers as in a crutch (Fig. 12, a); the downward movement to the starting point is resisted by hooking the left hand around the left knee (Fig. 12, c) to resist as far as the arm will reach, which brings the left foot to the bed again, the leg still being flexed on the thigh; the extension of the leg to a straight line with the thigh is resisted by placing the back of the right heel under the sole of the left foot, the heel of which is also pressed deeply into the mattress (Fig. 12, d); count in a whisper and the same performance with the right lower extremity constitutes the whole of the 12th movement; the muscles of this group are so powerful that considerable resistance can be offered to them; relax two to three minutes.

No. 13. Lying on the back; extend the upper extremities outward at right angles to the body (Fig. 13, a) and with clenched fists and set muscles strongly pronate and supinate, or twist the fore-arms; then counting in a whisper, flex both fore-arms until the fists reach the shoulders (Fig. 13, b); extend back to starting point and relax one minute.

No. 14. The same movement as No. 10; relax one minute.

No. 15. Lying on the back without a pillow (Fig. 15, a) and without aid from the upper extremities slowly raise the body, watching the breathing and counting in a whisper, to a sitting posture (Fig. 15, b) and bend as far forward as the body can go, then slowly back again continuing the motion beyond the prone position by raising the back from the bed enough to make a slight "bridge" (Fig. 15, c): relax two minutes.

No. 16. Lying on the back; this movement is first a flexion and then an extension of each leg on the thigh which is kept in a nearly straight line with the body; turn the body slightly so that the outside of the left thigh and leg lie against the bed and with the sole of the right heel behind the back of the left heel (Fig. 16, a), slowly flex the left leg as far as it will go (Fig. 16, b), keeping the thigh in as straight a line with the body as possible; count in a whisper, watch the breathing, and extend the leg back to the starting point resisting this part by placing the back of the heel of the right foot to the sole of the left foot; repeat with the right leg; relax two minutes.

No. 17. Repeat Nos. 13 and 14.

No. 18. Lying on the back without a pillow; slowly bend the body to the right as far as it will go without too much effort; count in a whisper, watch the breathing, and reverse the motion to the left side to the same extent; back to a straight line and relax two minutes (Fig. 18).

No. 19. Lying on the back; with the upper extremities held straight out in front of the body, strongly flex the open hands, with set muscles, forward on the wrist as far as they will go and then backward as far as possible; next supinate and pronate, or twist the forearms the same as in the beginning of movement No. 13. *Relax 15 minutes.*

The number of movements must be selected for each individual patient according to his condition and the indications to be met.

DIET.

The average case at Nauheim receives the following general directions in regard to diet:

Do not eat to fullness and eat slowly. No coffee; no strong tea; no effervescing drinks; no spirituous or malt liquors; no new or hot bread or biscuits, etc.; no fried potatoes; no cabbage; no old canned vegetables; no highly seasoned foods; very little salt in food; no pepper; no hard cheese; no heavy puddings; no ices or iced drinks; no fats except some butter and cream; no nuts of any kind; can have a little mustard. Eat sweet and starchy foods only sparingly. Smoke if at all in great moderation; tobacco is generally bad for the heart. If any wines are used, take moderate quantities of old still wines at meals only. All fruit to be ripe and carefully peeled. No meal to be taken less than two hours before bedtime.

SPECIAL DIRECTIONS TO REDUCE CORPULENCY.

So many heart cases are obese and need to reduce their weight that the following dietotherapy has been found to be rational and to lead to a judicious thinning that will strengthen and not weaken the heart. Excessive appetite is absolutely controllable by a bland diet; one devoid of the stimulating elements such as salt, spices, alcohol, coffee and other fluids.

Gradually cut out butter and cream and all sweet and starchy foods except some bread. Reduce the amounts of liquids until none of any sort are taken with a meal; for thirst, eat apples and oranges and drink water but not until three hours after a meal. At the table, until over the habit, use a glass drinking straw in order to take

only the small amount which will satisfy the craving. One should never drink less than 1500 c. c.'s, three pints in twenty-four hours. It is not necessary to go very hungry. Plenty of meat, when not contra indicated, without the fat and flour gravies, may be eaten, also vegetables that have little or no starch and bread. The following salads and vegetables can be taken ad libitum; salads made with plenty of head, flat, endive or chickory lettuce, served according to taste with a little French, boiled or mayonnaise dressing; onions boiled or raw once a day. tomatoes, celery, cucumbers, string beans, asparagus tips, oyster plant (salsify), spinach and artichokes. If cabbage can be easily digested, take fresh cabbage salads or sauer kraut without pork fats. One meal should be cut down to a minimum; if a breakfast, a very good reduced meal is one or two boiled eggs and half a piece of dry toast mixed in a hot glass with a little salt; it is best to drink nothing, but if coffee is insisted upon, use the coffee from which the caffeine has been extracted, in small amounts with a minimum of cream and sugar or saccharine.

The most recently accepted opinion in Germany on milk as a reducing diet is that the best results are obtained by having one or two exclusively "milk days" per week on which days nothing whatever except milk is taken, as follows: the maximum amount in twenty-four hours, to be drunk in divided amounts taken every two hours, is the number of grams represented by multiplying the pounds over one hundred of the body weight by twenty-five; for example, if one weighs 250 pounds, multiplying 150, or the excess over 100, by 25, gives 3750 grams, or about four quarts. This amount has been scientifically estimated to furnish all the nutrition demanded by the body in 24 hours; the entire amount need not be taken if not desired. It is essential to have a pair of bathroom scales, which can now be had for \$10.00, and a full length mirror, to keep a record of weight and appearance, weighing twice weekly, without clothing, at the same hour and under the same conditions. If weakness is felt at any time, enough food of any kind desired should be taken for a few days to overcome it and a report made to the doctor. The weight after the first month should not be reduced more than three pounds per month. Exercise is to be taken in moderation, always stopping when fatigued or leg weary, or when the respiration is hurried, until thoroughly rested and until the

breathing and heart action are quiet. The only medicament advisable is thyroid extract which is useful in many cases. With a slow reduction to what should be the normal weight, the general health is not impaired, wrinkling of the skin will be avoided and thereafter a practically unrestricted diet seldom causes a return of obesity.

THE AFTER-TREATMENT.

The subject of a successful course of treatment through the processes of action, reaction, metabolic and nutritional changes, has had a *énage* imposed on his nervous system which, with improvement in all other respects, leaves a liability to a sense of lassitude on all kinds of mental and physical exertion; when the margin of energy has been small the physiologic actions may have required the expenditure of nearly all of it and the patient may by no means be fitted to return at once to the cares and duties of every day life in spite of the repair of his cardiovascular structures. Even if the sense of languor be scarcely apparent an interval of relative repose is imperatively demanded to develop a reserve nervous energy and also because the general musculature has for a considerable period been deteriorating in consequence of the inactivity imposed by the disablement of the circulatory and through it the respiratory mechanism.

Hence it is in the highest degree desirable that not less than two or three weeks should be devoted to health culture, or as it is termed, the after-cure. The primary condition of a well devised after-cure is isolation from domestic and business responsibilities and the avoidance of all unnecessary mental concentration. If a vacation is possible it should be taken in sunshine and comfort, sheltered from the winds, with a southern exposure if possible, plenty of pure air, some light amusements and freedom from worry. From this time on the patient must never again view himself or his responsibilities too seriously. In summer an altitude of from 1000 to 3000 feet is desirable. In cases in which anemia has been prominent the question of altitude is important on account of the favorable influence it exercises on the production of the red blood corpuscles. On the other hand it may be disastrous to send a patient who is the subject of a persistent and irreducible high blood pressure, especially if there be even slight albuminuria, to a high station; a sense of cerebral con-

gestion and cardiac asthma or dyspnoea would almost certainly ensue and efface the benefits of the preceding treatment; even 800 or 900 feet may have this effect. This period, the after-cure, must be devoted strictly to that physical culture which the changes effected in the heart and vessels render possible. All those vital energies which are no longer exacted by the reactions of the treatment should be developed by carefully regulated and gradually increased exercise. It is at this time that the hill climbing of Oertel may be practiced in suitable cases, but its indiscriminate employment may be very harmful especially in those cases in which the liability to dyspnoea and palpitation is associated with valvular lesions. In such cases walking should be practiced on the level and no attempt should ever be made to establish what is called "second wind" in the face of such symptoms. During the first days it is better to take four or five short walks, with intervals of repose, rather than two long ones. A period of rest before and after meals is important and particularly so in cases of angina. After the heart muscles regain their power their practice can be gradually increased to greater efforts by cooler baths, manual and Zander gymnastics, and finally, according to Stokes, graduated mountain pedestrianism or hill climbing. Climbing practiced at too early a stage involves serious risk and may even cause death, especially if practiced under the rules of Oertel, which require a considerable reduction of liquids; on the other hand experiences of Schott have proven that valvular disease is no barrier to such ascents as Mont Blanc as a crowning effect of a slow and carefully graduated course of treatment.

BOOK REVIEWS

THE PRINCIPLES AND PRACTICE OF GYNECOLOGY.. For Students and Practitioners. By E. C. Dudley, A. M., M. D., Professor of Gynecology in the Northwestern University Medical School, Chicago. Sixth Edition, thoroughly revised. Octavo, 795 pages, with 439 illustrations, of which many are in colors, and 24 full-page plates. Cloth, \$5.00, net. Lea & Febiger, Publishers, Philadelphia and New York. 1913.

The new sixth edition of Dudley's Gynecology represents the matured judgment and experience of its author, and nobody has a better claim than Dr. Dudley to be heard on the subject of gynecology. For many years he has stood in the front rank of the students and workers in his specialty. His book offers few or no points for

adverse criticism. To the reviewer there is left, then, the more pleasurable task of noting some of its merits and points of excellence.

The present edition has been carefully revised; parts have been rewritten, and recent advances of importance in various departments of the subject, as gleaned from recent current literature, have been incorporated in the text. The illustrations, many of them in color, also deserve mention, they illustrate pathological conditions and the various steps of operative procedure and thus supplement the descriptive text in a way that is as useful as it is somewhat unusual.

Of special merit and interest are the chapters on Diagnosis and Minor Operations. Here the "homely, everyday problems of minor gynecology" receive a most satisfactory treatment; it is all well worth a careful reading. The chapter on Ectopic Pregnancy is one of the best in the book. The varieties, the symptoms, the diagnosis and the treatment of this interesting condition are well stated; we know of no single article on this subject so clear and complete, indeed this same clearness and completeness are two prominent features of the whole book.

Another too much neglected but fundamental subject is well presented in a chapter on Embryology of the Genitalia. A knowledge of embryological development makes clear or explains so much in the pathological conditions met with in the female pelvis that its importance can scarcely be over-estimated.

Another chapter, up to date, but tempered with the sound sense of experience, is that on Carcinoma. It should be read and re-read by the general practitioner as well as by the gynecologist.

A minor criticism of the book, of many books, but not of the author, is the paper. This book contains nearly eight hundred pages and it weighs about five and a quarter pounds. Some day we hope the paper makers may give us a paper light and thin and of a surface quality to satisfactorily take the illustrations, and then reference to and reading of medical books will be more of a pleasure.

B.

A TREATISE ON THE DISEASES OF WOMEN. For Students and Practitioners. By Palmer Findley, B. S., M. D., Professor of Gynecology, College of Medicine, State University of Nebraska; Gynecologist to the Clarkson Memorial Hospital and Douglas County Hospital; Fellow of the American Gynecological Society; Fellow of the American Association of Obstetricians and Gynecologists; Fellow of the Chicago Gynecological Society. Octavo, 954 pages, illustrated with 632 engravings in the text and 38 plates in colors and monochrome. Cloth, \$6.00, net. Lea & Febiger, Philadelphia and New York. 1913.

The work is a worthy successor to the author's book on Diagnosis of Diseases of Women.

The subjects are considered in 34 different chapters, an unusually large number to find in a textbook on diseases of women, but the number may be considered an index to the comprehensiveness with which the different sub-headings are considered and discussed.

The proper recording of clinical histories and the important facts to be elicited are discussed fully. The technique of making a systematic and complete physical examination is placed before the reader with conciseness and schematic drawings, engravings, and plates are used to make the technique more readily understood. The details necessary to careful diagnoses are emphasized throughout the whole book.

Topical and hygienic treatment, X-ray therapy, serum and organo-therapy are fully discussed.

Hygiene of the school girl, physical training of school children, public playgrounds, in-door exercises, dress and corsets are entertainingly discussed in the light of present day knowledge on these subjects. The chapter on hygiene and dress is well illustrated by diagrams and cuts, particularly the matter of exercises and the question of proper and improper fitting of corsets. The results of their baneful influence are graphically illustrated.

Preparation of the patient and surgical technique receive careful consideration.

The technique of the different operative procedures is well illustrated by numerous drawings.

Plate 27 represents an unusual cauliflower growth of the cervix.

More than 50 pages are devoted to a consideration of diseases of the urinary system. Cystoscopy and catheterization of the ureters occupy considerable attention and the technique is illustrated by numerous photographs and drawings.

Obstetric questions are fully dwelt upon in the respective places where they arise, which again emphasizes the American utility of attempting to consider obstetrics and gynecology as separate divisions of medicines.

Post-operative treatment and the complications following operations are considered in such detail that the last two chapters would be well worth while for a nurse to study. Photographs of the different positions the patients occupy in bed appear on ten different pages. The technique of abdominal applications and fomentations, vulvar douching, etc., are among the photographs in the concluding chapter.

On the whole, the treatise is an excellent text and reference book; and, in writing it, the author rendered another service to the subject of Gynecology.

The press work is of the same high standard that characterizes all of Lea & Febiger's publications.

J. P. M.

THE PRACTITIONER'S PRACTICAL PRESCRIBER — AND EPITOME OF SYMPTOMATIC TREATMENT. By D. M. MacDonald, M. D., Medical Officer of Health. Leven, Fife. 191 pages. Oxford University Press, 35 West 32nd St., New York. Price, \$1.50.

A compact pocket formulary giving valuable therapeutic suggestions for a large variety of pathological conditions, the diseases being arranged in alphabetical order, useful tables of doses, helpful hints for emergencies, diet tables, and recipes.

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MARCH, 1914

No. 10

EDITORIALS

PAPERS FOR THE OSHKOSH MEETING.

In the call for papers for the Oshkosh Meeting which the chairman of the Program Committee issued in these columns last month there was announced the intention to build up the program around two main topics, Infections and Fractures.

This does not mean, however, that the man with a good paper on some other subject need not apply. There will be plenty of room for the medical man as well as for the surgeon who may have some other subject which he wishes to have discussed.

Send in your names and the titles of your papers early so that the Program Committee may be able to get its work finished in good season.

CONTRACT PRACTICE.

The resolution on Contract Practice which was adopted at the Annual Meeting of the Council on January 3, was published in the January Journal. It will be remembered that the resolution recommends that the county societies draw up and pass appropriate resolutions looking toward the abolition of contract practice and that county societies are empowered to refuse to grant membership to applicants doing contract practice and to suspend or expel those not abiding by the resolutions when passed.

This whole subject of Contract Practice is an extremely important and difficult one and it is very desirable to have a full and free discussion of it from all points of view. Let us make use of

the columns of the Journal for this purpose. Any letters of reasonable length which are sent to the editor on this subject will be published, either with or without the writer's name, as the writer may prefer. But anonymous letters will not be published.

With the development of industrial surgery under the conditions created by the Workmen's Compensation Laws it seems to the writer hardly possible to avoid some form of Contract Practice. Where shall the line be drawn? What are the good points and what are the dangers of Contract Practice? These are questions of the utmost importance to the general practitioner as well as to the surgeon and they are questions which are before us today. Let us try to meet them fairly after a reasonable and courteous consideration of "the other man's" point of view.

BUBONIC PLAGUE.

From the always interesting Annual Report of the Surgeon General of the Public Health Service of the United States for the year 1913 we learn that only one human case of bubonic plague occurred in California during the year. This case was that of a Japanese woman, a strawberry picker; residing on a ranch near San Juan, San Benito County. The patient died June 13, 1913. As infected squirrels had been found in the immediate vicinity, and no rats or rat signs were discoverable about her place of residence it is believed that the infection was obtained from ground squirrels.

During the year 30,845 squirrels were examined

in this and the adjoining counties and of this number 680 were found to be plague infected.

The importance of continuing this laborious work cannot be over-estimated.

In the outbreak of bubonic plague which occurred in Porto Rico between June 10 and September 13, 1912, there were fifty-five cases. Of these thirty-six died and nineteen recovered.

RADIUM AND CANCER.

In this country we have recently seen medical men rushing into print in the daily press on the subject of radium and its curative effect in cancer, but its stimulating action upon the imagination does not seem to be confined to America.

We note in a recent number of the *British Medical Journal* that on January 8th the *London Times* published, on the authority of Dr. Lazarus-Barlow, director of the Cancer Research Laboratories at the Middlesex Hospital, a statement in which the statistics for 1912 and 1913 were compared. Dr. Lazarus-Barlow was there reported to have said that from June to September, 1912, 24 inoperable cases, such as the cancer department of the hospital only admits, were received, and that all died, a mortality rate of 100 per cent; it was stated that from June to September, 1913, on the other hand, 68 cases were admitted, and that of these 36 died while 32 were in so favorable a condition that they were discharged from the Hospital—an unprecedented event. It was added that in one or two cases only had recurrence taken place, and that it was hoped that with a fuller knowledge of the action of radium recurrences would be prevented. Dr. Lazarus-Barlow was further reported to have said that it was possible that in some cases a sufficiently powerful dose of the remedy had not been used, and that in consequence a few cells were left unkilld which afterwards caused the recurrence. While admitting that time was required to substantiate the remarkable results achieved, and that no one should talk of an absolute cure until his results had been so substantiated, Dr. Lazarus-Barlow is reported to have added that there would no longer be any doubt as to the immediate effect of radium upon cancers and tumors. A couple of days later a letter was published in the *Times* by the members of the surgical staff of the Middlesex Hospital stating that the communication published on January 8th had been made without any communication with those responsible for the treat-

ment of the patients, and that it did not correspond with their experience. They went on to give the following statement, founded on the Registrar's returns: "During the year 1912, 319 patients were under treatment in the 90 beds of the special cancer wards of the Middlesex Hospital. Of these 167 patients died, 67 patients were discharged at their own request, and 85 patients remained in the hospital at the end of the year. During the year 1913, 361 patients were under treatment; 198 patients died, 75 patients were discharged at their own request, and 88 remained in the hospital at the end of the year." It is added: "The results hitherto attained by the use of radium in the treatment of patients suffering from cancer, although in some cases most striking, and in many cases hopeful, are not such as to justify the statement that in radium we have a 'cure for cancer.'"

This furnishes a very interesting object lesson to illustrate the different impressions which may be gathered from the same group of cases when seen from different points of view.

CORRESPONDENCE

TRAMPING ABROAD.

[The following travel sketch, borrowed from the *Watertown Times*, was written by Dr. W. F. Whyte, who with his wife, is making a journey to the Mediterranean and other eastern points:]

On Board S. S. Caronia, Feb. 6.

After two days of riding on that most disagreeable of modern metropolitan necessities, the New York subway, it was with a feeling of relief that we came on board this great sea-going monster, one of the crack ships of the Cunard line, and promptly at noon weighed anchor and began the long voyage to the Mediterranean; 420 cabin passengers from all parts of the United States, chiefly from the east, made up the company. Going to the purser's office we found a bunch of letters and telegrams from our good friends in Wisconsin, wishing us a pleasant voyage. Oh, if good wishes would only avert that horror of ocean travel, sea sickness, what a blessing it would prove to those who go "down to the sea in ships". Although the weather was cold and rainy, the ship's company seemed to be in high feather, and at luncheon the tables were full, but after passing Sandy Hook, there was a rapid thinning out of the numbers on deck, and those who remained were as quiet as a

Madison crowd after the Wisconsin team has been defeated.

The major portion of the passengers could sympathize with the sea-sick Frenchman who when asked if he had dined, replied, "Oh, Mon Dieu! Contrair! Contrair!" Mrs. Whyte and I pinned our faith in a new remedy which a Nauheim doctor claims to be a specific for sea sickness. With your correspondent it seemed to work very well, and Mrs. Whyte thought that she had escaped, but unluckily for her she went to divine service on Sunday morning. I have attributed the disastrous results to the Church of England as not agreeing with her ecclesiastical prejudices, for she has not eaten a decent meal since. I have no doubt that were she an English militant she would be a strenuous advocate of disestablishment from this time on.

The first four days we had rather rough weather, with a rolling sea, but since yesterday morning we have been in latitude 34, which means 500 miles south of New York, and fine summer weather. Card playing and dancing are the principal occupations of those who feel well enough to enjoy their meals. I exhausted my stock of seasick stories the first two days out, and have fallen back on some of our Watertown standbys. I find that good old Watertown and her stuffed geese, are not unknown here. I found a man who gets them every year from our best known dealer. He overheard me speaking German with a fellow passenger. Soon after he approached me with the remark: "The German ships are best after all; much better than these." I said that they were very fine ships, and innocently asked him if he knew about the "Deutschland," one of the largest German liners. He said, "Oh, yes, it was a great ship." I replied, "Did you know it was built in Glasgow?" and left him to sing "Deutschland ueberalles" as a solo. I have seen the Tango danced here, and twenty years ago I saw the "hootchy kootchy" danced by Egyptian girls at the World's Fair in Chicago. After mature deliberation I have yielded the palm to the Egyptians as a more spectacular and less immoral performance.

The Jewish Rabbi who justifies the tango by saying that in India the girls danced in the temples nude, and nothing was thought of it, is either far in advance or far behind the age.

Tonight we are approaching the Madeira Islands and everyone seems to be in good spirits. Tomorrow we spend the day on land and leave for Gibraltar in the evening.—W. F. W.

NEWS ITEMS AND PERSONALS

Drs. L. F. Jermain, C. H. Lemon and G. E. Seaman, Milwaukee, have been appointed an Advisory Committee from the State Medical Society for the Industrial Commission.

DR. E. M. RICE, formerly of Kewaunee, later at Chicago, has accepted a position on the faculty of Marquette University, Milwaukee.

DR. A. BACHHUBER, Mayville, was injured, though not seriously, in a runaway accident, on February 17th.

DR. G. W. MCCARTHY, Athens, has left for a trip to Europe.

DR. W. C. DICKENS, Wausau, who recently underwent an operation at Rochester, Minn., is convalescent.

DR. E. W. BURKHARDT, Menomonie Falls, is convalescing from an attack of rheumatism, which has confined him to the house for a month.

DR. GEO. R. FREY, Milwaukee, is defendant in a \$15,000 damage suit brought by Augusta Schewe who alleges that in extracting a portion of a broken needle from her hand Dr. Frey made a number of unnecessary incisions.

DR. A. I. COMFORT, for twenty-five years on the medical staff at the National Soldiers Home, Milwaukee, celebrated his 88th birthday on March 12th.

DRS. H. P. RHODE, Green Bay, and P. F. GAUNT, Oconto, are defendants in a malpractice suit. Andrew Brickner of Oconto, alleges that he received burns which will partially disable him for life, through the improper use of the X-ray.

DR. J. W. ROCKWELL, Hartford, is convalescing from a case of blood poisoning, the result of a bite in the hand received while performing an operation on the throat of a child.

DR. W. D. STOVALL of Mississippi, a graduate of Tulane University, New Orleans, has joined the University of Wisconsin Medical Staff, as a bacteriologist in the state laboratory of hygiene. Dr. Stovall succeeds Dr. K. W. Smith.

DR. C. A. FABER asks \$10,000 damages from Dr. L. J. DeSwarte, claiming he bought the practice of Dr. DeSwarte on an agreement which he alleges the latter has broken.

MRS. BIRDSEYE CHRYSLER, Milwaukee, widow of the late Dr. Oscar Chrysler of the National Soldiers Home, has begun suit in the United States

District Court, Philadelphia, against the Kensington Engine Works Company of Philadelphia, to recover \$25,000 damages for the death of her husband who was killed in an explosion last October. According to the statement of claim, the defendant manufactured and sold a disinfecting machine to the institution last June. The decedent set up the machine, but when he attempted to operate it an explosion killed him.

THE BOARD OF CONTROL has endorsed the site selected by the Brown County Board committee for the county tuberculosis sanatorium. The site consists of twenty-six acres, five miles south of De Pere, on the Fox River.

THE NEW ROMAN CATHOLIC HOSPITAL at Dodgeville was dedicated on March 12th.

Fifty leading physicians of St. Louis on February 19th united in a protest on the closing of the segregated district, and asked the board of police commissioners to map out a new district to be under the supervision of the board of health and the police.

J. M. PRENTICE recently convicted in Door County for practicing medicine without a license, where he paid a fine of \$75, was haled into Justice Court on March 6th at Luxemburg, upon the complaint of Dr. Felix Moreaux, on the same charge, and after trial he was fined \$85.00 and the costs of the prosecution.

The United States Senate passed, on February 13, without opposition, a bill awarding \$5,760 to the widow of Dr. Thomas B. McClintick of the public health service, who lost his life in an effort to learn the cause of the dreaded spotted fever in Montana a year ago.

MARRIAGES

Dr. Oscar Strauss and Miss Marion Roddy, both of Milwaukee, February 27th.

REMOVALS

Dr. Benjamin Holmes, Burlington to Delavan.
 Dr. C. F. Werner, Fond du Lac to St. Cloud.
 Dr. C. M. Wahl, Madison to Spring Green.
 Dr. C. A. Kerner, Racine to Milwaukee.
 Dr. O. M. Layton, Fairwater to Fond du Lac.
 Dr. F. W. Bromley, Palmyra to Whitewater.
 Dr. P. G. Frey, Spooner to Washburn.
 Dr. M. H. Rice, Eagle River to Cameron Junction.

DEATHS

Dr. Roswell Park, one of the best known surgeons in America, and who was in charge when President McKinley was shot in 1901, died suddenly at his home in Buffalo, N. Y., on February 15th. Death was due to heart disease.

Dr. H. P. Miller, for many years a resident of Norwalk, died at his home in that village on February 6th, aged 74 years. He was a graduate of Hahnemann Medical College, Chicago—class of 1887.

Dr. Andrew B. Grider, Milwaukee, died on March 7th, after an illness of three weeks, of pneumonia, aged 57 years. Dr. Grider was born at Waupun, was a graduate of the Northwestern University Medical School, Chicago, 1882, and had practiced at Milwaukee thirty-two years.

Dr. J. Simonson, for the past twenty years located at Tomah, died on February 6th at the Tomah Hospital, after an illness of several months duration.

Jacob Simonson was a native of Switzerland, born at Geneva on May 3rd, 1853. He was educated at the Marburg Polytechnic School of Science and Mathematics. At the age of 28 he came to America, and received his medical education at the Toledo Medical College, Toledo, Ohio. He first located at Wausau and then at Tomah. Dr. Simonson established the Tomah Hospital and conducted it up to the time of his death. He was the surgeon for the Chicago, Milwaukee and St. Paul Railway at Tomah, and during the past year was president of the Monroe County Medical Society.

Dr. E. R. Holliday, Ellsworth, died on February 17, 1914, after an illness of several years' duration, aged 49 years. Edward Robert Holliday was born on a farm in Calumet County, May 21, 1865. After graduating from the high school at Chilton, he taught for four years in the public schools of the state. He then took up the study of medicine, and in 1893, graduated from the College of Physicians and Surgeons. He first began the practice of his profession at Clear Lake, later moving to Amery, and in 1896 came to Ellsworth where he had since resided, with the exception of two years, one year of which he spent in Chippewa Falls as assistant superintendent of the State Home for the Feeble Minded, and one year in Arkansas. In 1893 he was married to Miss Laura A. Freeman of Lake City, Minn. Dr. Holliday was for several years president of the Pierce County Medical Society.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

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10th Dist., R. U. Cairns - River Falls

TERM EXPIRES 1918
3rd Dist., F. T. Nye - Beloit
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TERM EXPIRES 1914
7th Dist., Edward Evans, - La Crosse
8th Dist., T. J. Redelings - Marinette

TERM EXPIRES 1916
11th Dist., J. M. Dodd - Ashland
12th Dist., H. E. Dearholt - Milwaukee

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J. J. McGOVERN, Milwaukee

J. M. DODD, Ashland

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NEXT ANNUAL SESSION, OSHKOSH, OCT. 7-9, 1914.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

Table with 3 columns: County, President, Secretary. Lists 90 counties and their respective officers.

SOCIETY PROCEEDINGS

BROWN-KEWAUNEE COUNTY

At the annual meeting of the Brown-Kewaunee County Medical Society held at Green Bay January 14, 1914, the following officers were elected: president, W. Weber Kelly; vice-president, H. P. Rhode, secretary-treasurer, F. L. Crikelair; delegate, I. E. Levitas; alternate, H. C. Mix; censor, N. M. Kersten.

F. L. CRIKELAIR, *Secretary*.

DOUGLAS COUNTY

Members of the Douglas County Medical Society in session at the water pumping station of the Superior Water, Light and Power Company, discussed the need for a city and county hospital and agreed that such an institution was much required in Superior. The physicians also considered an incinerator plant one of Superior's greatest needs, the present method of garbage disposal being severely scored by several of those present. Following a sumptuous repast served in one of the rooms of the pumping station, General Superintendent W. C. Lounsbury of the water company, spoke on Superior's Water Supply.

JEFFERSON COUNTY

The Jefferson County Medical Society held its annual meeting in Fort Atkinson on February 26th, and elected the following officers: president, Chas. S. Carmichael, Sullivan; vice-president, Dr. G. E. Eck, Lake Mills; secretary and treasurer, Dr. C. R. Feld, Watertown.

KENOSHA COUNTY

Meeting of February 6th.

At the meeting on February 6th, which was held at the home of the president, Dr. C. H. Gephart, Dr. Geo. E. Shambaugh of Chicago, gave a very interesting talk on "The Faucial Tonsil as a Source of Infection."

Meeting of March 6th.

The regular meeting was held at the home of Dr. J. J. McShane, on Friday evening, March 6th. Dr. Peter Bassoe of Chicago addressed the meeting on "Acute Anterior Poliomyelitis with Special Reference to its Mode of Transmission."

A. J. RANDALL, M. D., *Secretary*.

LANGLADE COUNTY

The annual meeting of the Langlade County Medical Society was held at the Blackstone Hotel, Antigo, February 6th, and the event was celebrated with an elaborate banquet. The meeting was called to order by Dr. G. W. Moore, after which the following officers were elected: President, Dr. F. V. Watson; vice-president, Dr. H. G. Westphal; secretary-treasurer, Dr. J. C. Wright; delegate, Dr. I. D. Steffen; alternate, Dr. G. W. Moore; censor, Dr. M. J. Donohue. Dr. Lyman Steffen and Dr. Daily of Elcho were elected members of the society. The meeting was followed by a smoker.

MARATHON COUNTY

The Marathon County Medical Society met on February 19th, at the Marathon County Asylum. Dr. Adin Sherman, superintendent of the Northern Hospital, gave

a clinic after which a dinner was served. The Rev. John Lloyd delivered an address on "Psychology and Faith Healing Cults." Dr. Sherman gave an address on "The Ordinary Examination to Determine Sanity; How It Should Be Conducted and the Extent of Examination."

OUTAGAMIE COUNTY

Regular meeting of Outagamie County Medical Society was called to order by the President, Dr. J. R. Scott, at the Hotel Randolph on March 10th, 1914. Minutes of previous meeting were read and approved.

A paper by Dr. E. H. Brooks on Amyopia was followed by a general discussion.

Some remarks on the Complications of Pregnancy by Dr. V. F. Marshall were followed by a general discussion.

Dr. H. W. Abraham was elected as representative to the visiting nurses' association.

Lunch at 6:30 P. M. Fifteen members present.

Adjourned. FRANK P. DOHEARTY, M. D., *Secretary*.

RACINE COUNTY

The regular meeting of the Racine County Medical Society was held at the Hotel Racine, Racine, Thursday, February 5th, 1914, at 8 P. M. Meeting was called to order by the president, Dr. Emil Tompach. The president appointed Drs. G. W. Nott, S. Sorenson and F. W. Pope to constitute the program committee for the coming year. Dr. Daniel Hopkinson, Milwaukee, addressed the society on "False Interpretations of Laboratory Findings." The address was much appreciated by those present. Dr. R. E. Rugh of Racine read a very interesting and instructive paper on "Renal Tuberculosis."

SUSAN JONES, M. D., *Secretary*

WOOD COUNTY

At a special meeting of the Wood County Medical Society, held in connection with the third quarterly meeting of the Ninth Councilor District Medical Society at Marshfield, February 12th, it was voted to extend a standing invitation to the Clark County Medical Society to consolidate with Wood County Society. If the invitation is accepted it is planned to hold a meeting within a few weeks to effect the consolidation.

TWIN CITY MEDICAL ASSOCIATION

The Twin City Medical Association held its annual meeting at the Theda Clark Memorial Hospital February 9th. The following officers were elected for the ensuing year: president, Dr. G. E. Forkin; vice-president, Dr. S. D. Greenwood; secretary-treasurer, Dr. T. D. Smith. The association accepted the invitation extended by Dr. G. E. Forkin to the members and their wives to be entertained at his home at the next meeting.

MILWAUKEE OTO-OPHTHALMIC CLUB.

The paper of the evening of February 17th, "Bronchoscopy—History and Technique," was read by Dr. W. E. Grove and discussed by Dr. Hitz and Dr. Pfister.

Dr. Grove demonstrated the use of the Bronchoscope on one patient.

Dr. Barnes reported a case of Vincent's angina.

G. I. HOGUE, M. D., *Secretary*.

BOOK REVIEWS

GENITO-URINARY DISEASES AND SYPHILIS. By Edgar G. Ballenger, M. D., Adjunct Clinical Professor of Genito-Urinary Diseases, Atlanta Medical College; Editor *Journal-Record of Medicine*; Urologist to Westley Memorial Hospital; Genito-Urinary Surgeon to Davis-Fisher Sanatorium; Urologist to Hospital for Nervous Diseases, etc., Atlanta, Ga., assisted by Omar F. Elder, M. D. The Wassermann Reaction by Edgar Paullin, M. D. Second Edition Revised. 527 pages with 109 illustrations and 5 colored plates. Price, \$5.00, net. E. W. Allen & Co., Atlanta, Ga.

The book was written for medical students, and the summary at the end of each chapter is of especial value. Directions for carrying out treatment are very explicit. The author is one of a very few Urologists who uses vaccines in genito-urinary infections. That phylacogens should also be advised in these infections, is incomprehensible.

A chapter is devoted to Nephritis, a disease which Urologists never treat and one which the medical student can better study in works on Internal Medicine.

Neither perinephritis nor perinephritic abscess is indexed and we did not notice any reference to these important subjects in the text. The occasional similarity of symptoms in seminal vesiculitis to the symptoms of stone in the kidney, is not noted. The author's abortive method of sealing argyrol in the urethra in the early stages of acute gonorrhoea is worthy of more general use. The last 138 pages, nearly one-quarter of the book, treats of Syphilis. In discussing the prognosis, emphasis is laid upon the insufficient manner in which syphilis is treated even at the present day. The importance of a prolonged vigorous treatment is very properly emphasized. In giving Salvarsan intravenously, a solution isotonic with the blood is preferable to concentrated solutions. The majority of syphilographers prefer the combined use of mercury and Salvarsan to the use of the latter alone.

E. A. F.

INFECTIONS OF THE HAND. A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand and Forearm. By Allen B. Kavel, M. D., Assistant Professor of Surgery, Northwestern University Medical School, Chicago. New (2nd) edition, thoroughly revised. Octavo, 463 pages, with 147 illustrations. Cloth, \$3.75, net. Lea & Febiger, Philadelphia and New York. 1914.

In general accident and industrial surgery the possibilities of infections of the hand are so frequent and the results of these infections when they do occur may be so serious that Dr. Kavel's work found a very ready welcome when it made its first appearance.

The second edition has been thoroughly revised and the author has taken advantage of the opportunity to make certain additions in regard to the chronic processes which his experience in the last two years has suggested. More complete descriptions have been added under the illus-

trations of cross-sections, and a clearer system of cross-references has been introduced.

The book is thoroughly practical and is splendidly illustrated and will be valued by all who are called upon to do surgical work, especially accident surgery.

PRACTICAL SANITATION. A handbook for Health Officers and Practitioners of Medicine. By Fletcher Gardner, M. D., Captain Medical Corps, Indiana National Guard; First Lieutenant Medical Reserve Corps, United States Army; Health Commissioner of Monroe County, Indiana; and James Persons Simonds, B. A., M. D., Professor of Preventive Medicine and Bacteriology, Medical Department, University of Texas; lately Superintendent, Indiana State Laboratory of Hygiene. 363 pages, Octavo. Price, \$4.00. C. V. Mosby Co., Publishers., St. Louis. 1914.

In this volume of a convenient size the authors have given a plain non-technical exposition of the duties of the health officer, written by one experienced in the routine and emergencies of the local sanitary service and familiar with the needs of the local health officer. It is compiled from many sources, and, while it contains much of the personal observation of both authors, it also presents the established views and methods in combating disease and not ideas of the future. It aims simply to provide a safe way for the health officer to meet any emergency which may arise.

The work is divided into three parts, the first of which, Epidemiology, takes up for consideration in successive chapters Infectious Processes, The Management of Epidemics, Isolation and Quarantine, Isolation Hospitals and Camps, Disinfection, The Typhoid Group, The Exanthemata, The Diphtheria Group, The Plague Group, The Yellow Fever Group, The Septic Group, The Tuberculosis Group, The Typhus Group, The Meningitis Group, The Venereal Group, The Ringworm Group, The Conjunctivitis Group, The Animal Parasites.

Part two deals with General Sanitation under the following headings: The Organization of the Sanitary Service, Local Records and Statistical Methods, The Birth Record, Reports of Communicable Diseases, Registration of Deaths, The Disposal of the Dead, School Inspection, Factories and Work shops, Institutions and Prisons, The Rat, Anti-Fly Campaigns, The Mosquito, Prevention of Soil Pollution, Sewage Disposal, Disposal of Garbage, Sanitary Food Inspection, Milk, Water, Nuisances, Miscellaneous Sanitary Laws.

Part three discusses Laboratory Methods and an Appendix supplies schedules for Sanitary surveys of cities, school-houses, hospitals, dairies, etc.

This is a sane, reasonable, and practicable book which can be recommended to any physician who is in need of a work on this subject.

STAMMERING AND COGNATE DEFECTS OF SPEECH. By C. S. Blumel. Vol. I, The Psychology of Stammering; Vol. II, Contemporaneous Systems of Treating Stammering; Their Possibilities and Limitations. G. E. Stechert & Co., New York. Price, \$5.00.

This work presents an interesting, thorough, and convincing study of a most important subject. The first

volume of 365 pages is devoted to the Psychology of Stammering. There are chapters on Eye-mindedness, Ear-mindedness and the Verbal Image. One chapter is devoted to the physiology of the Brain, followed by one on Aphasia; the kinds and causes. The theory that stammering is a transient auditory amnesia, and that mental confusion and fear are complications, is upheld by many arguments.

The second volume of 376 pages, including glossary and bibliography, describes the Contemporaneous Systems of Treating Stammering: Their Possibilities and Limitations.

The systems that consider faulty respiration the difficulty, those that believe defective vocalization to be the cause, and those that think stammering is wholly or partially induced by lack of control of the articulative organs are fully described.

Psychological methods of treatment and mechanical appliances to overcome the defect receive attention.

Two kinds of stammering schools exist; the institutions, and correspondence schools, neither of which receive much credit from the author.

CLINICAL DIAGNOSIS AND URANALYSIS. By James R. Arneil, A. B., M. D., Professor of Medicine and Clinical Medicine in the University of Colorado, and Physician to the Denver County Hospital and the St. Joseph and St. Luke's Hospitals of Denver. New (2d) edition, revised and enlarged. 12 mo., 270 pages, with 83 engravings and a colored plate. Cloth, \$1.00, net. The Medical Epitome Series. Lea & Febiger, publishers, Philadelphia and New York, 1914.

In addition to the customary tests of the blood, stomach contents, feces, sputum and urine, space is found for such procedures as Wright's coagulation test, cryoscopy, tests for anaemia, leukemia, trypanosomiasis and leukocytosis, Thalman's gonococcus stain and spinal fluid tests for albumen and dextrose. The revision embodies all the recent advances. Particularly practical and timely are the sections on the examination of the stomach contents, and on serum reactions, including discussions of the Widal, Wassermann, Noguchi, butyric-acid and cobra venom tests. In each case due attention is paid to the normal as well as to the pathological constituents, and the necessary apparatus is carefully described. The illustrations are chosen with excellent judgment. The frequent bibliographical references are incentives to wider reading, and the questions at the end of each chapter serve to fix the important points in the reader's mind.

DYSENTERIES, THEIR DIFFERENTIATION AND TREATMENT. By Leonard Rogers, M. D., Physician to the Isolation Ward (Cholera and Dysentery), Medical College Hospital, and Professor of Pathology, Medical College, Calcutta. 323 pages, Octavo. Oxford University Press, 35 West 32nd Street, New York. Price, \$3.75.

This book represents the personal experiences of one who has had exceptional opportunities of studying the various forms of dysentery. The author is also the one who has recommended emetine the active principle of ipecacuanha in the treatment of amebic dysentery and

has done more than any man to show the value of this simple treatment in a disease which has long been recognized as one peculiarly resistant to treatment.

The book is divided into thirteen chapters. Beginning with a chapter on History of the Evolution of Our Knowledge of Dysenteries, the author proceeds to the discussion of Amebic and Bacillary and Other Forms of Dysentery. He also appends a chapter on Hill Diarrhoea and Diarrhoea Alba or Sprue.

While for us of the Northern Temperate Zones the book may not be found of daily use as we see but few cases of these diseases, yet the discussion is so clear, the style so lucid and the matter so authoritatively stated that it is well worth study by all medical men. We do not know of any better book on the subject into which more meat is compressed.

The size is convenient, the illustrations are good and the print is large and clear.

PRACTICAL PRESCRIBING WITH CLINICAL NOTES. By Arthur H. Prichard, M. R. C. S., L. R. C. P., R. N. (Rtd.), Late House Physician, The Brompton Hospital and Resident Surgeon, R. N. Hospital, Gosport. 304 pages, Octavo. Oxford University Press, 35 West 32nd Street, New York. Price, \$2.00.

In the hospital wards much time is necessarily devoted to Physical Signs and to Diagnosis, while the important subject of Prescribing is apt to receive far less attention.

The writer's first object has been to supply a number of prescriptions, and to explain them, giving, by way of explanatory notes, reasons for employing the various constituents, their particular actions, and any special points concerning them.

In order more fully to illustrate the effects of the various drugs in combination a number of illustrative cases have been epitomized. The results of treatment in these are indicated in short notes, while the main features of each case are briefly summed up by way of comment.

It is hoped that the method of showing side by side the prescription sheet and clinical notes may prove to be useful to the student in assisting him to acquire some knowledge of the principles upon which drugs are combined in the treatment of disease.

In enumerating the diseases no strict classification, clinical or pathological, has been attempted, the maladies in some cases being grouped together as a matter of convenience.

Many students experience difficulty in prescribing for infants and young children; for this reason several cases of disorders common in early childhood have been included.

DIAGNOSTIC METHODS. By Herbert Thomas Brooks, A. B., M. D., Professor of Pathology, University of Tennessee, College of Medicine, Memphis, Tennessee, Second Edition, Revised and Rewritten. 76 pages, Octavo. Price, \$1.00. C. V. Mosby Co., St. Louis. 1914.

This compact volume gives a useful and practical outline for History Taking and for the Physical Examination of the Patient, followed by chapters giving in detail practical methods of examining Sputum, Urine, Gastric

Contents, Blood, Serous Fluids, and Intestinal Contents. Chapters are also devoted to Tuberculin Diagnosis, the Wassermann Reaction, the Complement Fixation Test for Gonorrhoea, and the outfitting of a physician's laboratory.

THE ELEMENTS OF BANDAGING AND THE TREATMENT OF FRACTURES AND DISLOCATIONS. By William Rankin, M. A., M. B., Ch. B., Dispensary Surgeon, Western Infirmary, Glasgow, Extra Honorary Assistant Surgeon, R. H. S. C., Glasgow. 116 pages. Oxford University Press, 35 West 32nd Street, New York. Price, \$1.50.

A short practical treatise on bandaging, followed by chapters on Fractures and Dislocations with numerous illustrations showing the details of the management and dressing of these conditions.

PRACTICAL MEDICINE SERIES. Vol. 9, Series 1913, Skin and Venereal Diseases, Miscellaneous Topics, edited by W. L. Baum, M. D., and Harold N. Moyer, M. D. Chicago. 219 pages. Price, \$1.35.

Vol. 10, Nervous and Mental Diseases, edited by Hugh E. Patrick, M. D., and Peter Bassoe, M. D., Chicago. 236 pages. Price, \$1.35. The Year Book Publishers, 327 S. La Salle Street, Chicago.

These volumes of a handy size and attractively arranged for the student and busy practitioner, are replete with suggestions of the best practice of the day. The material of the volumes consists almost entirely of abstracts of important recent articles, in each case giving the reference to the original article. The ground is covered with great thoroughness, so that these books present in condensed form what has been done during the year that is really good.

By means of this excellent series of books it is possible for the general practitioner to keep in touch with medical progress in all its directions, an undertaking which the growth of medical literature has rendered an impossibility without such an aid. The judicious editorship of the entire series and of the individual volumes eliminates most of the superficial and unsound in current medical literature and presents the articles of real value in a form full enough for satisfactory use.

For the busy general practitioner, who desires to keep moving with the current of progress, this series will prove most helpful.

WISCONSIN INDUSTRIES FROM THE GEOGRAPHIC VIEW-POINT. The State Geological Survey has just issued a bulletin on the "Geography and Industries of Wisconsin". This bulletin is one of the educational series which have been so popular. The earlier bulletin on the "Lakes of Southeastern Wisconsin" has had to be reprinted and the one on the "Devil's Lake and the Dells" is out of print.

The present volume is written by R. H. Whitbeck, Professor of Geography in the State University. It is planned especially to be of interest to the general reader and to teachers and pupils who are studying the geography of the state. It treats in a very simple, pleasing manner the relation of the development of the industries of Wisconsin to the underlying geographic causes. It

points out how location, climate, topography, transportation, natural resources and the stage of development of the state have influenced its industrial activities.

Numerous maps and illustrations are used to make more pointed the statements in the text. There are maps showing the location of various industries, such as wood-working factories, metal working shops, paper and pulp mills, breweries, brick yards, creameries and cheese factories. There are also many maps showing the various agricultural products of the state.

The development of the lumber industry is traced from the time when only rough lumber was produced to the present time when there is a flourishing industry with many plants devoted to turning out finished wood products of various kinds, and the reasons for this development are shown.

The concentration of certain industries in particular sections, such as the great development of paper and pulp manufacturing in the Fox and Wisconsin River valleys, is pointed out and the reasons for this fact explained.

Many other interesting questions are discussed in the bulletin, such as the influence of transportation facilities on the development of our Wisconsin industries, why certain industries are declining and why others are rapidly increasing in importance, why certain crops are grown in some parts of the state and not in others.

This book is free to citizens of the state and will be sent on receipt of 10 cents to pay mailing charges. Those who wish it can obtain it by writing to the Geological Survey at Madison.

CATARACT CAUSED BY THE STING OF A WASP. Baer, Carl, Meran. (Klinische Monatsblätter für Augenheilkunde 51. II, September 1913. p. 314). A boy, aged 4 years, was 2 weeks previously stung in the right eye by a wasp. The sclera showed at the lower temporal portion, about 2 mm. from the corneal limbus, a red spot and in the center of this a white point. Corresponding to this there was a whitish triangular opacity of the lens, and over it a broad synechia of the iris. V—5/5. After a week the whole lens was opaque, and was removed by linear extraction, except the original opacity, which consisted in a tough gelatinous mass resisting the grasp of a hook or forceps. B. assumes a direct injury of the lens capsule by the sting combined by a toxic action of the poison from the posterior chamber on the lens.

C. ZIMMERMANN.

ON OCULAR COMPLICATIONS AFTER ARSENOBENZOL AND THEIR SIGNIFICANCE. Bistis, J., (From the eye-poly-icenic in the University of Athens. Zeitschrift für Aug., 23. August-September, 1912, p. 150), concludes from an analysis of the cases quoted from literature, and his own, with affections of the uvea, optic nerve and ocular nerves, that arsenobenzol is not capable of doing direct damage to the visual organ, and that the eye complications, occasionally developing after its application, are to be attributed to syphilis and not to a toxic effect of 606.

C. ZIMMERMANN.

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ORIGINAL ARTICLES

PROSTATECTOMY IN THE AGED.*

A STUDY OF TWENTY-EIGHT CASES OF PROSTATECTOMY DONE BY THREE DIFFERENT METHODS.

BY J. F. PEMBER, M. D., AND T. W. NUZUM, M. D.
JANESVILLE.

Senile enlargement of the prostate gland is so frequent that it is estimated that more than 15 per cent. of elderly men suffer from it to some degree, and in a large percentage of these cases suffer to such a degree as to render their lives almost intolerable.

As it is said of tuberculosis that it carries off the fairest and brightest of our race, so may it be said of prostatic hypertrophy that it afflicts the most thrifty and energetic, and I well remember when a boy the great sufferings of some of these aged men from the then named "gravel" and how they went to a speedy and miserable exitus.

When but a boy practitioner my nearest neighbor and benefactor, a most noble man of great fortitude, the most prominent and foremost citizen of our place, was so afflicted. He spared no effort nor expense in seeking relief, we consulted the most eminent of the time and I was more and more impressed with the helplessness of our profession.

How gladly we hailed the new operation of prostatectomy. Even in these aged and many times feeble subjects, it was a bow of promise, a ray of hope, and what a blessing it has been to these aged sufferers can best be realized by those of us who have been in the work for some years.

The development, anatomy, location and function of the prostate are so well known to you all that I need not here repeat, but I want to remind you that the proximal end of the urethra is elevated in all of these cases, so that it is no longer the lowest point in the bladder and that there is a residual urine, more or less, even where the patient

may be able to pass a fair stream. When the urine becomes infected and ammoniacal, soon there is lighted up on inflammatory process, and a process of continuous infection becomes operative. We note this by the loss of flesh, strength, and vigor, as well as the dingy complexion, coated tongue, foul breath, loss of appetite, constipation and general debility, a picture so familiar to us all, that he who runs may read.

We have taken a few similar cases from each series done by the three usual methods, viz.: the inverted Y incision, the small median or Mayo incision, and the supra-pubic method as performed by J. B. Deaver of Philadelphia, and while the number is small the conditions were quite alike and we may be able to draw some helpful conclusions. At least I shall hope that a full discussion of the subject by those more experienced than your humble servant may prove a source of much benefit to all present.

Summary of the seven cases done by the inverted Y method. The ages were as follows: Youngest, 56. Oldest, 85. Average age, 70. All recovered. One fistula remained for a time, two died from cancer in 4 and 7 years respectively. None were septic and all had good kidney function. All had bladder control.

In one case it was necessary to resort to the catheter a few times, but in this case only a portion of the gland was removed. In one case the rectum was injured but soon healed spontaneously.

There were fourteen cases done by the small median incision, the Mayo or perineo-urethral method.

Summary of the second series: Of the fourteen cases done by the Mayo or perineo-urethral method, two died in the hospital, one from pyonephrosis and suppression of urine. He was extremely septic, was suffering from cytitis and pyonephrosis with high blood pressure and was emaciated and in a very septic condition. He should not have been operated on at that time; but should have had a supra-pubic puncture and worn a catheter for

*Read at the 67th Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 2, 1913.

some weeks until his condition was greatly improved and kidney function restored. This procedure entails no danger, can be done in five minutes under local anesthesia and usually gives immediate relief. On the other hand I have catheterized some of these cases two or three times daily and irrigated their bladders for weeks with conditions growing daily worse, when upon puncturing the bladder and using the same medication and diet, improvement was apparent in the course of a few days, appetite improved, urine cleared and specific gravity came up, skin cleared up and vigor returned so that in three or four weeks the condition was so markedly improved that the prostate could be removed with comparative safety.

One patient, 85 years old and a county case, died in 12 days from lack of care; had he been in a hospital and received good care he would have recovered.

Of the fourteen cases in this series six were carcinoma. One had a carcinoma of the bladder which did not involve the prostate; he died in eight months from extensive involvement of the bladder and surrounding organs, though he was able to pass his urine spontaneously after the operation.

One patient died in nine months, two in one year, and one in three months; this case from sepsis following the use of normal salt solution due to faulty technique.

When the bladder has been greatly distended for a long time and suddenly emptied, without doubt you have all noted the violent cystitis which follows its sudden evacuation and even where the greatest care is used in relieving it by drawing a part at a time much trouble follows. I think those patients are more safely and satisfactorily relieved by a puncture and the introducing of a small catheter and allowing the urine to dribble slowly and continually away into some proper receptacle.

Of the seven done by the supra-pubic method, the youngest was 65 years, the oldest 75 and the average age was 71. In each case the recovery was without accident or complication, bladder control was complete, there was no pain on urination nor difficulty in voiding urine. Fistula closed in from two to six weeks and general health was apparently restored for one of their years.

I have come to believe that the capsule of the prostate, like fibrous tissue elsewhere, is of low vitality therefore susceptible to infection, loss of vitality and sloughing, thus causing a more or less

protracted septic condition which I have often noted at the end of ten days or two weeks.

You have probably noted how in any part of the body the tendons and fascia will slough while the muscular tissue will remain intact. In our first case done by the Deaver method I was careful to leave as much of the capsule as possible by shell-ing out the gland and I noted the usual late fever and septic condition. In our next case I took as great care to remove the capsule with the gland and no septic condition followed. Since then I have endeavored to remove all of the capsule and each time with the same gratifying results.

DANGER SIGNALS.

I want here to point out some of the danger signals which we have learned at the hard school or experience, trusting that you may profit thereby and escape some unpleasant experiences.

1. *Pyo-nephrosis*. Where the bladder is distended and the catheter has been used more or less, there is soon developed a septic cystitis, the over-distension not only overcomes the powers of resistance of the bladder to a marked degree but destroys the function of the valves of the orifices of the ureters and unites the bladder, ureters, and pelvis of the kidneys into one cavity filled with purulent fluid, hence the rapid destruction of the kidneys and the failure of their function which we so often note. I have watched cases where the specific gravity would fall in the course of a few weeks from 1020 to 1000 with a corresponding failure in general health, and where rapid improvement followed after the bladder was punctured and continuous drainage established.

2. Continuous low specific gravity is a danger signal which should be carefully noted. It indicates a grave destruction of kidney tissue and an inability on the part of the kidneys to properly eliminate solids, hence, when a little extra work is thrown upon them, they cease entirely to functionate.

3. A high blood pressure is a danger signal met with in these patients and means arteriosclerosis, or defective kidneys or more commonly both. When extremely high, say 190 or 270, as in one patient with whom we met, it is a symptom of much gravity and may deter one from taking the chance of an operation unless these conditions can be improved.

4. Repeated hemorrhages with much pain and

no stone present, I have come to regard as strong evidence of malignancy.

Our youngest patient was 55 and the oldest 85 years, average 78 years.

CONCLUSIONS.

1. Our only deaths occurred in those done by the median incision.

2. Complications have been more frequent and recoveries less satisfactory in those done by the median incision. The reason for this is apparent, as one working by the sense of touch and in a deep wound can never be sure that every part of the gland is removed nor can he be sure of the condition of the interior of the bladder.

3. The urethra as well as the sphincter muscle suffers more when done by the first two methods, especially the second.

4. The after-treatment is more painful and the recovery of the patient less satisfactory by the second method.

5. The danger of wounding the rectum is much greater by the first two methods.

6. The supra-pubic operation is quickly and easily done.

7. You have full knowledge of the condition of the bladder, viz.; stone, tumor, ulcer, diverticulum, etc., and with one or two fingers in the rectum, and the wound well retracted, you can have full control over your work and see what you are doing and have done.

8. You can be sure of the removal of every part of the gland as well as of all other pathology of the bladder:

10. Hemorrhage is more severe but can be controlled by the method mentioned above.

11. In our experience there has been less sepsis, in fact with the exception of the case where the capsule was left, no septic condition and the after-care attended with less pain and a more rapid and satisfactory recovery to both patient and physician.

12. The per cent. of cases which have developed cancer, sooner or later, have been about the usual 25 per cent. and some may have contained cancer cells which were removed sufficiently early to produce a cure, on the other hand some who have not yet developed cancer may do so in the future.

I heard J. B. Deaver say that he had employed the perineal method for several years, but for some time had been using the supra-pubic route and that

the results were so much better by the latter method that they were not to be compared.

I noted when spending a week at the Mayo clinic last June that Judd was doing the Deaver operation and also heard him say they had adopted this method because of the many unsatisfactory results following the perineal operation.

Ochsner still uses the perineal route; but makes his incision as was formerly done by the older surgeons for stone, with a large lithotomy knife and cutting backward and to the left so he has ample space through which to work and I think his results are quite uniform.

COMPLICATIONS.

Hemorrhage is not easily controlled in any of these cases as they usually suffer from sclerotic arteries and the bleeding is profuse and long continued.

In the inverted Y and median method the wound can be effectively packed with gauze soaked in 25 per cent. suprarenal solution and the hemorrhage will be slight; but in the supra-pubic method no such means of controlling hemorrhage is available unless you pass a fine cat-gut suture around the wound in the bladder and then pack the wound and tie the packing in, which controls the hemorrhage very well. Orchitis has been met with frequently in the first and the second methods of operation. Where a sound or catheter is used this is extremely apt to occur and does occur without the use of either. It is a serious complication where the patient is feeble and septic, as so many of these patients are, and may turn the scale against him.

3. Phlebitis has occurred in a few of our cases but only in those done by the median incision.

4. The loss of sexual power from operations done by the first two methods is quite universal notwithstanding C. H. Mayo's statement that they still retain as much as they had before the operation which he further states is very little.

By the supra-pubic method I have more hope that this function will be retained at least in some measure, though the time is too short to be sure of this.

5. Suppression of urine is very likely to happen in cases of pyo-nephrosis and when the specific gravity is extremely low these cases should be tapped supra-pubically and drained until their kidney

function is restored when they may be operated upon with comparative safety.

In the first two methods bladder control may be regained very soon, viz., in two weeks, as in one of our cases, or may be very tardy, say only after a year or more, or it may never be complete, and the fistula has been very irregular as to the time of its closing.

By the third or supra-pubic method, bladder control has been complete from the beginning and the fistulae have closed in from two to six weeks.

6. Painful urination and difficulty in emptying the bladder have been rather frequent in those cases done by the median incision, not so often in those done by the inverted Y incision, and entirely absent in those done by the supra-pubic method.

7. Frequency of urination, that is several times during the night, has been the rule in those done by the first two methods: but has not been a source of trouble in those done by the third method.

In order to give you some idea of the comparative merits of each operation as held by the masters in surgical art, those of large experience and more especially those who have done the work by each method, I sent out a number of letters asking the following questions:

1. Which of the three methods, namely, the inverted Y method, the small median incision or Mayo method, or the supra-pubic method as practiced by J. B. Deaver of Philadelphia, do you regard with most favor?

1st. As to the safety of the patient.

2nd. As to the length of time required for recovery.

3rd. As to the comfort of the patient.

4th. Urinary control.

5th. Freedom from complications.

To my questions I received answers from about a dozen which I think are well worth your time to consider.

J. B. Murphy writes: As to safety, the supra-pubic route, in the average cases.

2. As to the length of time required for recovery, the supra-pubic.

3. As to the comfort of the patient during his confinement in bed, the perineal; when able to be out of bed, the supra-pubic, properly protected with gutta percha urinary control padding.

4. As to the final urinary control, the supra-pubic method.

As to freedom from complications, the supra-pubic method.

5. As to full recognition of the complications that occur in the bladder, with enlargement of the prostate or in cases supposed to be enlargement of the prostate, as diverticula, papillomata, intitial carcinoma, etc., by all odds supra-pubic.

6. The above covers the general application, but as to the exceptions to the above, I would say that the small fibrous prostate can be removed probably better from below: (a) through the long lateral incision easiest; (b) through the inverted "Y" incision.

7. When the capsule of the prostate is reached, it should be punctured with forceps and the finger inserted and an enucleation made rather than dissection.

8. The pathological condition preceding the operation rather than the operation itself accounts for the mortality.

There is greater danger of injuring the rectum by the perineal than by the supra-pubic operation. I would say that about four-fifths of my cases are now performed by the supra-pubic route.

Dr. A. J. Ochsner writes: I believe that the median incision for prostatectomy is the best in regard to all of the features mentioned in your inquiries.

Dr. A. D. Bevan's letter reads: "In answer to your questions will say that I prefer the supra-pubic method; if I do the perineal, however. I do the small median incision. Recovery is usually in about two to four weeks. The comfort of the patient, I believe, is much more certain to be secured by the perineal route. It also gives urinary control and great freedom from complications."

Dr. Edward Martin of Philadelphia writes: "In regard to your questions the perineal cut is as a rule safer, prompter in recovery, more comfortable to the patient, and freer from complications. Complete normal urinary control is perhaps a trifle more assured than by the supra-pubic operation. A convenient cut for the operation is a curved perineal incision in front of the anus."

Dr. E. W. Andrews's letter reads:

1. Left lateral perineal—supra-pubic about 60 per cent. of cases. Perineal slightly safer in skilled hands.

2. About equal.
3. No great difference.
4. Much easier in perineal operation.
5. Supra-pubic avoids more late complications, fistula, injury of rectum.

Dr. J. B. Deaver of Philadelphia: The supra-pubic is the method which I prefer, it is not attended by any sequels or complications and so forth, if properly performed, or by want of urinary control.

Dr. Hugh Cabot of Boston writes the following:

1. As to safety, I think the perineal route, by whatever method, carries a distinctly lower mortality in the present state of our knowledge.

2. The recovery after perineal operation is more prompt if one excludes those cases of persistent sinus which are pretty common.

3. The patient is more comfortable after the perineal operation.

4. Urinary control is certain after the supra-pubic operation, quite uncertain after the perineal. The advantage here is wholly with the former operation.

5. The supra-pubic operation is practically free from complications. With the perineal route many complications, chiefly fistulae, lack of urinary control and failure to cure the obstruction are common.

Dr. N. M. Percy: In reply to your questions concerning Prostatectomy, will say that I favor the median perineal incision and if one is careful to make the enucleation from within the bladder, I think this method gives the best results as to all the five questions.

Dr. Scudder of Boston: 1. I think that there is no choice in the supra-pubic or perineal approach so far as the safety of the patient is concerned under ordinary circumstances.

2. The time required for recovery, if a healing of the fistula is the criterion of recovery, is a little shorter by the perineal method than by the supra-pubic, but not much.

3. Both methods are attended by discomfort. A properly conducted supra-pubic fistula need be no more uncomfortable than a perineal fistula.

4. There is less likelihood of a disturbance of urinary control by perineal approach.

Dr. G. E. Brewer of New York: In reply to your note, permit me to say, that I use the supra-pubic method where there is a large median lobe, in very old people, where a quick operation is necessary and where there is already a supra-pubic opening. I use the perineal method (Young's), in

cases where the hypertrophy is limited to the two lateral lobes, and when the condition of the patient permits of more deliberate work.

Although I believe the supra-pubic is safer in bad risks, my mortality has been considerably less in the perineal operation. The length of time for recovery in my hands is shorter in the perineal; also the comfort of the patient. Regarding urinary control, I think I have had one patient following each method with delayed closure of sinus. The perineal case still leaked a drop or two at the end of two years. I know of no supra-pubic fistula which did not eventually heal.

Dr. Parker Syme: As to the supra-pubic method; I have always been opposed to that method of performing prostatectomy. The only excuse for its performance, to my mind, lies in the fact that it has been found easier of accomplishment than is the perineal method. Of course good results obtained by some men form also a very proper excuse. However, I believe the risks to the patient are approximately twice as great by the supra-pubic method as by the perineal method.

Of course there is no comparison between the two methods when it comes to the question of the length of time required for recovery.

The same may be said as regards the comfort of the patient.

As regards the urinary control; I can speak from experience. I should think incontinence would result as frequently after supra-pubic as after perineal operations. Of course the perineal method, if properly performed, is much more free from complications than is the supra-pubic.

As to the perineal prostatectomy I have not employed the inverted "Y" method, nor any other modification of the Celsian incision, exposure being made without dissection. I have not wounded the rectum at operation. (One patient developed a recto-peritoneal fistula some time after operation.)

After exposure of the sheath of the prostate I do not approach the gland through the prostatic urethra but through the sheath on either side as Young does.

I do not know what could be called the method of Mayo. I had understood the Mayo's were now principally using the supra-pubic method. I believe for some time they used the method which was proposed by Dr. Gouley twenty-five years ago and which was put into practice and brought into prominence by Dr. Wm. Goodfellow in 1891 or 1892. This method consisted in opening the mem-

branous and prostatic urethra through a median perineal incision reaching the prostatic lobes by incising or lacerating the prostatic urethra on either side. When I began my work in '97 I thought the method was original with me. Though Goodfellow had published his work, it was in a magazine which had gone out of existence.

I prefer perineal prostatectomy.

1. As far as the safety of the patient goes; the mortality risk is about half as high as that of the supra-pubic method.

2. As to the length of time required for recovery; in perineal prostatectomy it is much shorter. It is my rule to have patients out of bed within forty-eight hours. Favorable cases are practically well within two or three weeks.

3. As to the comfort of the patients: The patient is usually free from discomfort when the drainage tube is taken out. I seldom leave tube in longer than forty-eight hours.

4. As to urinary control: See remarks under head of Supra-pubic method.

5. As to freedom from complications: Aside from the patient's general condition there are few complications to follow perineal prostatectomy if properly performed. Epididymitis is the only one of importance and this of course is not usually a serious one.

Thus you will see that opinions vary, but you will readily see that all who have practiced both methods at all extensively are agreed upon the advantages of the supra-pubic method in many and vital points, viz.: (a) Urinary control, (b) Freedom from complications, (c) Better knowledge of conditions inside of the bladder, (d) Rapidity of making the operation and if properly done the danger from hemorrhage is no greater and I think even less.

The operation which I have done for some time and have found satisfactory is as follows: Make a large supra-pubic incision and push the peritoneum upward, introduce two strong sutures of silk to act as guy ropes to steady the bladder (the latter are not at all essential), make an incision into the bladder and place a gauze pad in its fundus and hold the wound open with a Jackson speculum introduced into the bladder through the upper angle of the wound and let the speculum press against the gauze pad which was placed in the bladder, with two gloved fingers placed in the rectum bring the bladder and prostate well up into view when you can explore every part of the inside

of the bladder and discover pathological conditions with an accuracy which would not be possible by the perineal route.

I saw Dr. Murphy operating on a case in which he found a diverticulum full of pus which only communicated with the bladder by a very small opening and could not have been discovered by the perineal route and the patient would not have been benefited. So do I believe are stone and tumors and malignant growths frequently overlooked when the operation is done from below.

Neither is the cystoscope a never failing aid as I saw a case in Vienna operated upon by Prof. Zuckerkandel, than whom none have a greater reputation, in which a bladder tumor was mistaken for a stone, and your humble servant met with the same error, as they did also at the Mayo clinic, on the same case.

Now with the finger of the right hand in the proximal opening in the urethra break through the mucosa on the anterior part and eunucleate the anterior lobe following around laterally on each side until you have loosened the entire gland, when you can lift up the prostate and divide the urethra close to the under surface of the gland.

Frequently this will not be necessary. The sphincter lies around the gland and has not been injured and the mucosa and veins have been little injured and if there should be too free hemorrhage fill the space from which the prostate has been enucleated, with formoline gauze and bring it out through the tube or by the tube which is placed in the supra-pubic opening for drainage.

This can be tied in with very fine cat-gut, as mentioned above, when deemed necessary or desirable. Now place a suture through the upper end of the cut in the bladder and fasten to the muscle on each side and tie. This stitch prevents the bladder from dropping down. Now you can close the bladder entirely, in which case you should drain the space of Retzius and keep a catheter in the bladder for two weeks with almost constant irrigation for the first 48 hours, or you can close it down to a drainage tube which comes out above the pubis which personally I prefer, as most of these cases are septic and will not heal by primary union and I find the retention catheter quite intolerable to many patients. I also believe these patients are benefited by some weeks of drainage.

The after care I have found quite simple. Some dilute mineral acid to prevent the formation of

concretions on the raw surface, some urinary antiseptic with abundance of water, irrigating the bladder twice daily by introducing a soft rubber catheter a short distance into the urethra, say 3 or 4 inches, and letting a gentle stream of some antiseptic solution, as boric acid or permanganate of potassium, flow through the bladder, and through the tube above the pubis. The latter procedure gives no inconvenience and washes all septic material out from the deepest recesses of the wound. After the tube is removed, which is usually in 3 to 10 days, we continue to irrigate twice daily until we have a clean bladder once more and use cotton and sterile dressings to soak up what urine escapes from the supra-pubic wound.

In our small experience the fistulae have closed in from two to six weeks and each case has made a most satisfactory recovery.

In the first series are seven performed by the old Y method.

1. C. L., (83), 56 years old. Oct. 6, 1902. Removed the prostate by the inverted Y incision. He had suffered long from septic bladder and kidneys and was drained by the supra-pubic cystotomy until his general health was much improved. Recovered good urinary function. Sexual power lost.

2. N. F., (84), 65 years. Retired farmer. Had suffered for some years from prostatic obstruction. Removed the prostate through the Y incision; it was small and frozen in. Made a rapid and complete recovery and died four years later from cancer of the bladder. At autopsy both kidneys were found to be seriously diseased.

3. O. H. V., (109). Scan. farmer, age 70, prostatic obstruction, bladder not septic, removed by inverted Y method and made a fine recovery. Sexual power lost.

4. B. Z., (101), 72 years. American, widower, retired farmer. Had suffered for some years from prostatic obstruction which required relief by catheterization at frequent intervals, which finally became continuous. Removed the prostate by the inverted Y. incision, during which the rectum was injured, which soon healed and caused no serious inconvenience.

5. J. F. Removed an exceedingly large prostate, but the wound did not heal until the urethra was thoroughly dilated and sinuses laid open, after which he made a fine recovery and remained well for seven years, when he died from carcinoma of the bladder.

6. C. V., (262), age 65. Removed a hard gristly prostate by marcellation. Suffered from orchitis in left testicle, but made an ideal recovery.

7. D. M., (345), 85 years. Removed a large cystic fibroid prostate by the inverted Y incision and packed and drained. Made a fine recovery.

The small median incision.

1. No. 587. S. S., 78 years, widower. Frozen-in prostate, made a good recovery and left the hospital in good condition, but soon began to complain of pain and inability to empty the bladder which was dilated. Resumed his work, but died one year later from carcinoma.

2. M. V., age 75. No. 588. Removed a large and adherent prostate. Had some difficulty in retaining his urine for more than a year.

3. No. 600. M. C. Very septic bladder and kidneys. Had used the catheter for some weeks and his condition was extreme, was prepared for five weeks by irrigating his bladder three times daily with boracic acid solution and giving diuretics, urinary antiseptics and milk. Died nine months later from defective kidneys.

4. No. 601. J. C. Insane, recovery fine and speedy. Catheterized once before operation.

5. No. 610. S. H. E., age 67. Acute retention and never catheterized. Healed by first intention and returned home in two weeks.

6. No. 615. G. W. N., age 78. Small hard frozen-in prostate removed by marcellation. Obstruction had been coming on for one year and bladder was septic, condition of patient very bad and had great difficulty and much pain on using the catheter. Died one year later from carcinoma of the bladder and hemorrhage from the same.

7. No. 635. C. W., 80 years. Had suffered from retention, pain and hemorrhage for one year. made a rapid recovery but continued to complain of pain and had some blood in urine at times. Later a cancer mass could be felt in the base of the bladder which increased in size and filled the bladder. Died in 8 months.

8. No. 645. O. S., 77 years. Large frozen-in prostate, made a good recovery but died in 6 months from an intercurrent malady.

9. No. 646. W. G., 54 years. Has used the catheter for some time and had a very septic bladder and pyonephrosis, condition very bad, kidney function failed, urine suppressed but passed a large quantity of thick pus. wound became very

septic and gangrenous and died in twelve days. Should never have been operated upon.

10. No. 660. B. C., 54 years. Diabetes and retention. Made a fine recovery. No infection of the bladder.

11. No. 688. A. S. M., age 65. Had suffered from prostatic obstruction for more than one year, carrying from one to two pints of residual urine. Bladder was infected one year by use of catheter and urine contained much pus since. Blood pressure 210. Specific gravity of urine very low, 1003 to 1008. Frozen-in prostate, removed by marscellation; had been prepared for some weeks by washing out the bladder through a catheter and giving urinary antiseptics. Never did well, and died in three months from sepsis caused by abscesses; these were caused by the use of normal salt infusion.

12. M. W., 85 years. Died in 12 days. County case. Did well for a time but died from lack of care.

13. G. S. G., 55 years. Suffered from phlebitis, had some difficulty in retaining his water for more than one year. Had suffered from retention for some time and left kidney much dilated.

14. No. 685. H. S., 68 years. Had suffered from obstruction for 7 years, very badly for four years. Bladder and kidneys very septic, urine very light, prostate very large. Is in very good health but has some difficulty in retaining his urine.

Supra-pubic method of Deaver.

No. 753. O. R., 65 years, widower. Has suffered for four years from prostatic obstruction at which time his urine was drawn continuously, left kidney greatly dilated and much pus in the urine of which there is a large quantity passed. Sp. gr. 1014. B. P. 200, coated tongue, very weak and much emaciated.

Removal by Deaver's method, bleeding very profuse and tied in gauze to control same. Had drained by puncture wound and catheterized for two weeks previously. Closed in three weeks with good control and patient greatly improved in health.

No. 783. W. E. W., age 65. M. Has suffered from retention at times for four years, at others emptied the bladder. Blood in urine at times, but no pain when urine passes freely.

No. 140. B. P. Sp. gr. 1020. Made a supra-pubic opening and removed by Deaver's method.

Found a tumor as large as a hen's egg arising from the bladder close to the urethral opening, by a very small pedicle; tumor was bleeding from several points. Removed a very large prostate and tied in iodoform gauze to control the hemorrhage which was quite profuse. Made a speedy recovery, retaining the urine and fistula closed in three weeks.

No. 851. P. C., age 75. Suffering from paralysis agitans. Had suffered from prostatic obstruction with occasional retention for fourteen years. Obstruction became continuous but urine was not very septic. Made speedy recovery. Had complete urinary control and fistula closed in about six weeks.

No. 863. C. T., age 67, widower. Has suffered from prostatic obstruction for four years and had used the catheter for two months. Carries two quarts of residual urine which became very septic. Kidneys dilated, painful and infected. Sp. gr. fell to 1001 to 1005 and blood pressure high, became markedly emaciated. Passed a trocar into the bladder above the pubis and introduced a small catheter, which remained for three weeks, during which time his condition became more satisfactory. Cut out the fistulous tract and removed the prostate by the supra-pubic route; opened the free peritoneal cavity accidentally and removed a piece of omentum which protruded and sutured the same, used supra-pubic drain.

Patient lost considerable blood and the kidneys did not functionate well for a few days, but the patient made a fine recovery and had full control of the urine with fistula closed in about six weeks.

DISCUSSION.

DR. EDWARD EVANS, La Crosse: In enlarged prostate there are two things that concern all of us as general practitioners: First, the diagnosis of those cases of enlarged prostate, because not all cases of retention in old people are cases of enlarged prostate. The second question that confronts us as general practitioners, is the selection of cases proper for the operation of prostatectomy, or relief by other means.

The diagnosis is of very considerable importance. to diagnose enlarged prostate early enough to have it operated on while it is still a safe and sane operation, because, as the essayist has said, a very considerable number of those become cancers; and as you have learned in LaFollette's Magazine lately, from the lips of a celebrated surgeon, cancer is curable if operated on early enough. So there is a burden placed on us to be sure and diagnose cancer of the prostate just as early as we can, as we should in other places. We should always be on

the lookout for the ear-marks of the enlarged prostate that shows the signs of cancer. There comes in the difficulty often, in those cases, because many of those patients retain their sexual appetite, so that sometimes it is rather difficult to get a man to consent to operation for prostatectomy at as early a stage as might be proper for an anatomical and physiological cure.

Then the other point is the selection of our cases. There are certain cases that, no matter how badly they are suffering from enlarged prostate, will not survive an operation as grave as that of prostatectomy, under the conditions as we find them. One of the important things that we should do while we are making up our mind whether a case should be sent to the surgeon or not, is not to make him worse. One of the unfortunate things is the infection of cases during the period of observation. Just the other day I was told of a case where the doctor approaching it for the first time, took a soft catheter out of his pocket, and unwrapped it from a piece of paper and drew the urine under those circumstances. Such a thing of course is criminal. I think those are the points that perhaps at a general gathering of physicians and surgeons from all over the state, we should be particularly careful about. First try to make our diagnosis as early as we can, second, be very careful in the selection of our cases and go over the case as a whole. Do not shut your eyes when you find an enlarged prostate, but remember that that enlarged prostate is in the patient, and you are not treating an enlarged prostate, but you are treating a patient with an enlarged prostate. If you keep those points in mind you will know, I think, when we have an enlarged prostate, and having found one, will have realized the condition of the patient as regards his general condition as well as his urinary symptoms.

DR. WILLIAMS, Chippewa, Falls: Mr. Chairman, I believe there is nothing that confronts the average physician and surgeon of today and causes him so much anxiety as these cases of enlarged prostate in old men, and that is the point in Dr. Nuzum's paper. His paper was very hard for anyone, I think, to improve upon; it is a very systematic, painstaking paper. But there are just a few things in my short experience that I would like to point out, not so much for the surgeon as it is for the average man that sees these cases first.

What we believe in these cases is of prime importance is the proper preparation of the patient before he ever sees the surgeon. Many of these cases die before they see the surgeon or ever see the operating table, for the simple reason they were not properly handled and cared for at first, as Dr. Evans just mentioned. My fellow schoolmate, E. S. Judd, two years ago read a paper before the Western Surgical Association on the proper preparation of these patients, and I think there are some very valuable things that can be obtained from this. We all know that the most common cause of death from prostatectomy is kidney insufficiency and acute nephritis which is superimposed usually upon an old nephritis. The great mortality in these cases we would naturally suppose would be in the cases where there was a putrid cystitis, and in cases where they had used the catheter

for a long time; but much to the surprise of men who are doing this work, that is not the case. The cases very often have come in in this shape, very feeble, with septic bladder, showing marked signs of debility, with pipe-stem arteries and high arterial sclerosis, and high blood pressure, will simply surprise us by going through an operation and losing a lot of blood, and in a few days be smart and bright and ready to get out of bed, whereas on the other hand a case will come to you with a clean bladder, apparently a man in good circumstances as regards general health, and he will go through an operation very nicely and lose very little blood, and the first thing we know in a week or ten days this man gradually begins to go down and will eventually die.

With the gradual enlargement of the prostate there is an inability to empty the bladder. As the gland increases in size, the amount of residual urine gives rise to a back pressure which is a constant factor in the functioning of the kidney. If we remove this pressure suddenly by removing the prostate, we withdraw all pressure from the pelvis of the kidney, which always throws the kidneys into an acute congestion, a suppression of urine, and ultimately to an untimely death. To avoid this difficulty, Judd showed in his paper that if we would not tap these cases, as we have usually been doing, and drawing the water off at once, but put a man on the job and catheterize the patient first twice a day, and then gradually increasing the interval to 3, 4 or 5 times a day until you get down to catheterizing him systematically every hour, by doing this you will preserve the sufficiency of the kidney and prevent these untimely losses which are hard to account for. At the same time, when this is accomplished, where the patient is catheterized every hour, then the bladder should be irrigated with some antiseptic, preferably boric acid, and at this time the patient should be especially urged to take large amounts of liquids, because in all these old cases they become grouchy, and they live just as they want to live, regardless of what the physician says, and they take very little liquid. The result is they pass very little urine. In these cases the Mayos have reduced their mortality a great deal by increasing first the volume of urine. We never operate upon a case where there is less than 800 c. c. of urine in 24 hours, and the next thing, which is not the least thing by any manner of means, is to keep at these cases for 2 or 3, 3 or 4, or 4 or 5 weeks to get the constant specific gravity up above 1010, which they think is of the greatest importance.

DR. D. J. HAYES, Milwaukee: The point made by Dr. Evans that the cases of prostatic obstruction reach the general practitioner first, and it is his imperative duty to see that the cases are not made worse in his hands by improper treatment is well taken.

All surgeons who have had much experience with this class of cases know that the prostate may be enormously enlarged without any obstruction to the urinary flow, and again the prostate may be quite small and at the same time interfere materially with the evacuation of the bladder so that enlargement of the prostate alone is no indication for prostatectomy.

Whether the prostate is large or small when there is a large amount of residual urine with consequent frequent urination from lessened capacity of the bladder and the time is rapidly approaching when a catheter must be used, then is the time for prostatectomy.

In my experience when catheter life is once established no matter how carefully asepsis is practiced the case generally goes from bad to worse resulting in complete demoralization of the whole urinary tract by septic infection.

I am pleased to note Dr. Nuzum's remarks on the preparation of the patient before the operation is undertaken, and I wish to emphasize some of the points he has made. Most of the cases are brought into the hospital in the evening and operated upon the next day, so far as my observation goes this is generally the case. I think this is a great mistake.

During later years it has been my practice never to do a prostatectomy in case of retention of urine whether the urinary tract is septic or otherwise, but follow the advice of the essayist by preparing the patient by rest and antiseptic irrigation and the administration internally of urinary antiseptics until the urine becomes quite clear.

In every septic case where the urine is loaded with pus I have gone as far as to make a supra-pubic puncture and drain the bladder until the urine becomes quite clear before attempting the operation. I then remove the prostate through the same supra-pubic opening.

I firmly believe that the mortality is decidedly reduced by this preparatory treatment.

With regard to a choice of an operation of prostatectomy, I will say that the principal objections that can be urged against the perineal operation are danger of injury to the rectum, the compressor urethrae muscle, and sometimes prolonged fistulous openings in the perineum; it is quite easy to understand how such an accident might occur.

Many advocates of the perineal operation claim that the injury of the rectum is unnecessary and should never occur.

The Good Book states, "By their deeds ye shall know them." During the past six or seven years I have seen quite a number of recto-vesical fistulae after prostatectomy from injury of the rectum.

A patient who suffers with a recto-vesical fistula is in a condition a little worse than death, and is not only a burden to himself, but to his family and to his friends.

The surgeon who attempts to close these fistulae has an operation of some magnitude on his hands. Some of the best surgeons in this country have reported cases which they have operated upon three or four times without success. I recall at this moment a case that had been operated upon by the perineal route twice without success, later when I operated I finally succeeded in closing the fistula by the same incision recommended by Kraska in removing cancer of the rectum. I resected a

portion of the macerated bowel, then after closing the fistula in the bladder drew the bowel down and stitched it to the sphincter muscle.

Dr. Nuzum stated that he has incontinence of urine in two cases operated by the perineal route; another very serious complication that not only happened in his hands but in those of many other surgeons. I recall a case that is now living in this city and was operated upon by one of the leading advocates of the perineal operation in an Eastern city that was followed by incontinence and is still suffering from this complication. The cause of this incontinence is not due to injury of the vesical neck as was formerly supposed, but is due to injury of the compressor urethrae muscle which surrounds the membranous urethra and is the true sphincter of the bladder.

On account of the complex anatomy of the perineum and the serious complications that do occur, I have pinned my faith to supra-pubic prostatectomy for the past several years, and believe that it is the safest operation for the patient; that it gives the best results and whenever prostatectomy is indicated it can be done by the supra-pubic method. It is the only method that I have practiced for several years, and I have turned to it after performing about forty operations by the perineal route. The rectum and compressor urethrae muscle are never injured. It has been my experience with proper care of the supra-pubic wound after prostatectomy that it heals just as rapidly, if not more rapidly, than the perineal wound.

Every year the supra-pubic method has more advocates and I venture a prophesy that in a few years more the supra-pubic route will be universally practiced.

DR. NUZUM (Closing): I just want to say that for some time in making supra-pubic drainage, I have just filled the bladder and taken a trocar, the stock bladder trocar, and introduced it into the bladder, stuck a little small catheter through that, withdrawn the trocar and sutured the catheter in. It is quite easily done, and it is a nice thing to do for an acute retention. Then after the bladder is drained for a little time, those old fellows will brace up instantaneously. I remember well a patient 85 years old, who had been drinking a little, and he got acute retention, and the doctor was up against a hard proposition. It was out in the country in the winter, and we could not do better than to tap him. We tapped him in that way, he was out around in the afternoon, wore the catheter about 3 weeks, and has never had any trouble since. That was several years ago. Another thing about tapping by that method—as soon as you remove your catheter the thing closes and if they can pass urine again, they are no worse off than they were before. It is so much easier, so much quicker, so much safer than to make an opening there, and they can let the water dribble away for an indefinite time, and it puts them in beautiful shape for an operation; much better than to try to catheterize every few hours, in my experience.

THE FEEBLE-MINDED AND THEIR RELATION TO SOCIETY.*

BY A. L. BEIER, M. D.,
CHIPPEWA FALLS.

*It is with our judgments as it is with our watches—
None go just alike, yet each believes his own.*

The time has come when the general practitioner should, and must, become better acquainted with medico-sociological problems than he is at present. That sociological problems have become serious and exceedingly important, none will deny. They have always been so; but they have not been understood and studied as they are now. That the condition denoted as Feeble-Mindedness is one of the most important, interesting, and fundamental phases of this question can readily be seen; that the solution of these sociological problems depending from mental defectiveness and its results, hinges upon our present and future treatment of the mental defectives, truly unfortunates, cannot be disputed.

We pride ourselves on the fact that we live in an era of progress. Prophylaxis is the watchword of our medical fraternity. To what conditions could this be applied more aptly than to feeble-mindedness, insanity, epilepsy, degeneracy, or criminality? Truly, in the treatment of these conditions, prophylaxis plays the most important role. Again, we pride ourselves on the fact that we are constantly essaying a betterment of the human race. We recognize a **problem, then, like good students, as we must be, we delve into its intricacies and mysteries, that oftentimes hide somber truths, and we attempt to enlighten the gloom by a solution of the question and a properly applied remedy.**

There is a problem! That fact may never have reached the realm of your consciousness before; it may never have received more than a passing thought; or, again, it may have appeared like a shadow on your mental background, flitting to and fro, only to be superseded by a more delectable fancy, then delegated to that realm of the mind, the field of oblivion, the cemetery of unpleasant thoughts. If the contents of this paper can assist in awakening former ideas and conceptions relative to this problem, and, if you will couple or associate them with your later, better experiences

and opinions, I shall think my time well spent in constructing it. If you will only entertain seriously the fact that the feeble-minded present a gigantic, complex, ubiquitous, and pathetic problem, some good will have been done.

As to the causation of this condition, it would be better to consider this more thoroughly at some future time. Suffice it to say at this time that heredity is by far the most protean and potent factor. The majority of us understand the laws of heredity especially as applicable to the lower animals, and, we are breeding animals accordingly. In respect to heredity as related to humanity, however, we stand by and willingly see, and sometimes help, the propagation of a class of mental defects and the generally unfit. We oftentimes free known defectives and thus assist, and practically invite them to contract responsibilities the meaning of which they cannot understand, and to assume a place in society working untellable harm.

Institutions alone cannot compete with the general public in these matters. They need the assistance of the physicians to dispel the cloud of ignorance that enshrouds the question. They need the general practitioner who should be helpful in dispelling erroneous, preconceived, improperly weighed, illogical conceptions which tend to derogate the importance of the work of caring for the feeble-minded, and should aid in protecting society from a propagation and perpetuation of the malignant strain that has developed since time immemorial. You as physicians should be educators of the public in this and all medico-sociological matters. The man of science lays aside his prejudiced opinions and maudlin sentiment and seeks for naught but bare, naked, unvarnished truths, and when these are discovered, he hastily readjusts his erroneous ideas, and thereafter his acts are performed in accordance with those discovered truths. Thus must you do. The public looks up to you for advice, and is surprisingly ignorant. You should assist in dispelling this ignorance. How many mothers and fathers of defective children, when they realize that they themselves are the causal factors, or carry within them the vitiated strain, have cried with all the anguish and pathos imaginable—"If I had only known!"—but there was no one to tell them—their fathers and mothers were unacquainted with the laws of heredity; the physicians were loath

*Read before the Chippewa and Eau Claire County Medical Societies.

to speak of that which they knew to be unchanging truths. The result? Visit our densely populated State Institutions, be they penal, insane, feeble-minded, or eleemosynary—that is the most lucid and logical demonstration that can be given.

And now, what of feeble-mindedness? What differentiates the normal individual from the defective? Is there a line of demarcation? What constitutes normality?

There are many gradations in the mental scale of the defectives as there are also in the scale of normal individuals. The difference between the highest type of the feeble-minded and the lowest type of those representing the normal class is very slight indeed. Dr. A. C. Rogers speaks very aptly when he says—"The mental incapacity—(of the feeble-minded)—varies in different individuals from completeness so that the existence is vegetative only, to merely a lack of co-ordination between the affective intellectual and volitional faculties, so that the individual is disqualified for harmonious social relations." (Bulletin of the Amer. Academy of Med. Vol. 13, No. 3, June, 1912.)

The line of demarcation is not sharp and well-defined; however, it is sufficiently so, so that one is hardly liable to mistake. At the present time the standard of normality is so fixed that practically all are embraced who are self-supporting and who are capable of conforming to the laws and conventions of society. The feeble-minded have proven themselves incapable of both.

Before entering further into the consideration of the feeble-minded, it would probably be well to give the more recent classification as it exists among the students of this condition. The term feeble-minded as used here has only a generic meaning, and includes all the classes and grades of the mentally feeble whose deficiency developed either congenitally or during early life, and embraces the idiot, the imbecile, and the moron, which latter class represents the highest type of feeble-minded child. The term moron has been recently substituted for the term feeble-minded as used in the specific sense—the latter term having been used also in the older classifications to denote the highest type. This late classification depends on the results obtained by the Simon-Binet tests, which were originated by two men interested in the study of sociological problems, named Simon and Binet, both of Paris. Later,

the results of their studies were introduced in the United States by Dr. H. H. Goddard, who made extensive application of the tests at the Institution for the Feeble-Minded at Vineland, N. J., and reported the results of these tests to the Association for the Study of the Feeble-Minded at a meeting held at Chippewa Falls, in the year 1909. At the next meeting of the Association, during the following year a tentative classification, based on the results of the Simon-Binet tests, was adopted, and at the same time the term Moron was suggested to displace the term Feeble-Minded as used in the specific sense. The word Moron is a Greek word, defined as one who is lacking in intelligence; one who is deficient in judgment or sense. This word, as Dr. Goddard says, seems to have the advantage in that it is not in use in English in any sense, and furthermore, its original meaning would, *per se*, make its application very apt.

According to this new scheme of classification, we would have then, beginning with the highest type, the moron class, then the imbeciles, and lastly, the idiots. Each of these grades permits of a sub-classification, namely: the high, the middle and low grade moron; next, the high, middle and low grade imbecile; lastly, the high, middle and low grade idiot. Thus according to this classification we have practically nine grades of feeble-minded children, grade one representing the low grade idiots and grade nine representing the high grade morons. By using the Simon-Binet tests we can readily find out in what grade any child belongs, and that gives us a key to his mental age. Thus, it was found by various experimenters, that the class of morons are able to pass tests that normal children from 8 to 12 years are able to pass. Their chronological ages may have varied from 13 to 17 years, or even more. Again, it was found in testing other children that these ranked still lower, and that their mental ages varied from 3 to 7 years even though chronologically they were older. This is the class of imbeciles. The lowest class varies in mental age from 0 to 2 years. Now, if we were to say child so-and-so, is chronologically 15 years of age, mentally, 7 years, and belongs to grade six, the high grade imbecile class, we know with almost a certainty his capacity for future development, and we know what line of procedure and training could best be pursued. Kuhlman of Faribault, Minn., Huey of Illinois, Goddard of

New Jersey carried on extensive tests throughout the institutions with which they were connected, besides applying them to normal children. Their results were practically uniform. Again it may be added, these tests are being used more or less extensively at practically all the institutions for the feeble-minded. They offer a readily applicable scale which serves to demonstrate the mental status or the degree of intelligence of any individual examined. All observers have so far felt the want of something tangible for comparing the feeble-minded with their normal brothers. Any one is able to understand and apply these tests. As Dr. Rogers, heretofore quoted, says, "From this examination, the medical examination, and the field survey of heredity and social environment from which the child is received, one is able to secure the most complete data possible for determining the prognosis, and the intelligent planning of treatment and training." Time will not permit me to go further into the details of these tests. At this time I wish more to give a description of the various classes of the feeble-minded and their characteristics.

I am quoting rather freely from a letter by Dr. Goddard to Dr. Rogers, as published in the *Journal of Psycho-Asthenics*, Vol. 15, Nos. 1 and 2. In speaking of the new classification as developing from the use of the Simon-Binet tests, Dr. Goddard says: "The low grade idiot would be the helpless child, or one under one year of age in mental development; the middle grade would be the year old, or we might say, a child who is not quite helpless, but who will feed himself, but will eat anything and everything; the high grade idiot would be, for example, one who eats somewhat discriminatingly; one who will not eat everything; the low grade imbeciles would include those that test as three, and those who test four years of age according to the Binet plan; the middle grade would be the five-year-olds; the high grade those that test six and seven years, etc."

The lowest type of idiot is merely a living organism, devoid of intelligence. Within him there is no intellectual or mental co-ordination between his internal and external relations; objective reality to him has no meaning; true, he seems to be in touch with external entities; his senses to all appearances seem to be intact; his eyes may be normal; his auditory apparatus may be in good condition; his tongue may contain the same number of taste-buds that yours or mine contains; but,

owing to some error in development, or some disease process, the various stimuli, issuing from external sources, are not correlated or co-ordinated in the realm of consciousness. His existence depends almost entirely upon reflexes which never receive that inhibition that a normal consciousness or a normal mind exerts over the complex psycho-neural reflex acts. Impulses may leave their impressions on his psycho-neural pathways, but these never are developed into ideas. "His bedimmed search-light of the mind, consciousness," can never utilize the influence that external experiences leave in the form of impulses. Even the simplest thoughts are to him an impossibility. Many lower animals are his superiors in intelligence. Even pain conveys no particular meaning to him—true, he re-acts, but his re-action is slow and indecisive. Of danger he knows naught; is always heedless and has not even that most powerful heritage or instinct, the tendency to self-preservation. He eats when fed; but food to him has no particular significance. Dirt, filth, anything would be eaten with as much relish as the finest and most tempting food. I have in mind now an idiot who will eat almost anything, be it parts of his clothes, grass, dirt, pebbles, in fact, anything that he is able to swallow. Another, if not most carefully watched, will go into the toilet where he might find feces issuing from himself or his companions and he will eat that with as much relish as he would natural food. He may or may not have the power of locomotion. Speech is foreign to him; he neither comprehends spoken language, nor, consequently, does he ever learn to talk. The nearest he comes to making an articulate sound is in the use of a guttural when he is displeased, and a screech at other times. The faculty of emotion is only in a rudimentary state of development.

The idiot of the middle grade is a little further advanced; there is a beginning of intelligence, very faint and ill-marked though it may be. He almost knows food, and displays a faint spark of intelligence when being fed. External stimuli produce some little sluggish reaction. By careful training he can be taught to feed himself, but he will eat everything. He possesses a greater degree of irritability, but none of these characteristics is as accentuated as with the high grade idiot. The power of attention is almost entirely wanting.

The high grade idiot is still a little more advanced than his less fortunate brothers. He is

quite able to differentiate between his likes and dislikes; appears affectionate toward some who treat him with more consideration than others. Knows food when he sees it, and is in some instances able to discriminate between his liking for this or that food. Feeds himself, and learns to use the toilet, and to closet himself. He usually has the power of locomotion, and is inclined to be irritable, and grows angry when irritated; cries, when he cannot obtain that which he seems to want; begins to enjoy play, with toys, etc. There is a beginning of speech confined to the use of words, as *mamma*, *papa*, etc. Some belonging to this class are extremely excitable. When displeased, will strike and bite themselves; or, will strike their heads against the floor or wall. I have one case in mind who has a very hard and large callous in the temporal region, gotten by pounding that spot frequently and repeatedly with his fist. Another is in the habit of striking his head on the floor, with apparently no cause; he, too, has a callous, large and firm on his forehead, and cries lustily whenever he performs the act, but does not seem to sense any resulting pain. It may be said in passing, that one could enumerate hundreds of instances and characteristics, but time will not permit the giving of anything but the most salient features of these cases. Again, it may be said, that the mental development of the idiot remains almost stationary and never advances to such an extent that he is enabled to perform the most simple work.

The imbeciles, according to the table showing the mental scale, vary in mental age from 3 to 7 years. The low grade imbecile is, as we see, somewhat further advanced mentally than is the idiot. He is able to speak; can repeat short sentences; can tell his own name; his sex, etc.; understands simple language and commands; partly dresses himself, but cannot be taught manual work. True, he attempts to imitate others, but his efforts prove to be quite futile. He plays a great deal, enjoys the use of toys, but at games requiring conscious effort he is unsuccessful. He is usually obstinate and irritable.

The middle grade imbecile is capable of performing simple tasks; learns to wash dishes, scrub the floor; will move a chair, a table or bed, if asked. By constant training, learns to polish floors and to perform other tasks of short duration, requiring but little mental effort. His use and understanding of language are of higher de-

velopment, but his ideas are few and of the simplest kind.

The high grade imbecile is capable of doing small errands about the house, but cannot be sent to any distance, as, from one house to the other; learns to dust, sweep, polish, self-help, and requires but little assistance. He also learns to assist others, in dressing, closeting, washing, etc. The brighter ones can make beds, and can also be made to perform heavier manual work out-of-doors, but always under direction, and even then their work seems to be done almost automatically, and unsystematically. The faculty of judgment is weakly developed.

The individuals of the moron class vary in mental age from 7 to 12 years. These are commonly spoken of as the feeble-minded, or the imbeciles. It is this class that is the most important, interesting, and dangerous, from a social standpoint. The highest type differs from his normal brother only in degree. In appearance he may be evenly matched with him. The lowest type usually develops into a good laborer, but learns only uncomplicated industrial work; his work must always be done under direction, as otherwise it would be unsystematized and never finished. He has very little initiative, and possesses a poorly developed judgment. His speech is usually well-developed, but there may be defective articulation. His sentences are short and he frequently repeats words and phrases, the use and meaning of which he has no knowledge. His vocabulary is generally limited. He has a few scattered, ill-defined ideas to which he clings tenaciously. He is always self-centered and egoistic. Aggressiveness and spontaneity of action are either entirely wanting or very poorly developed. At school work he learns to read quite well and very probably at the end of his scholastic career begins reading in the Third Reader. With spelling he usually experiences great difficulty. He may learn simple subtraction and addition, but beyond that his arithmetical knowledge rarely develops, and, as also obtains with the higher type moron, he may gather many isolated facts, but he never becomes able to correlate and use these acquired facts to serve any useful purpose.

The middle grade is still further advanced. He becomes a good institution helper, and is capable of learning more complicated labor. His reading, writing, spelling, and arithmetic, and speech are better and further developed, but still he lags far

behind his normal brother. His power of attention is very poor, and he lacks the ability to concentrate his mind for any length of time on any particular subject, but can learn if the subject-matter is being constantly drilled into him. He becomes useful in manual and industrial work; learns music; the girls of this class become very adept at embroidery and lace work under constant, systematic training which must be so thorough and complete that their hands and fingers perform the movements required in as automatic a way as do the hands and fingers of an experienced musician when playing an instrument. Under direction and painstaking training the middle grade moron sometimes becomes very proficient in industrial work, and often accomplishes neat and most difficult work.

The highest type approaches the normal most closely, but in school, with normal brothers, he is usually the laggard—the poor student. Mentally he does not develop beyond the age of 10 or 12. It is very seldom that he ever gets to or beyond the fourth grade. There are, however, a few exceptional cases of this type who attain to a higher degree of education, but even with these a wide discrepancy in their mental, as compared with their chronological ages, exists. The high grade moron learns some very difficult work; becomes useful in various departments; at the laundry, paint and carpenter shops, powerhouse, barns, etc. He can be trusted to a great extent in the care of animals, but he needs constant supervision at his work, not so much on account of incapacity, but more on account of his proneness to mischief. As a class, the morons are useful under supervision at an institution and they perform a comparatively great amount of labor. Outside of an institution their work is always unsystematic and nearly useless unless it is done under strict supervision and direction.

Heretofore I have intentionally disregarded, excepting here and there, specific reference to the moral make-up of the feeble-minded child. The moral sense develops almost synchronously with the development of intelligence, in mental defectives as in normal individuals, and it may be added, is present in only a rudimentary state in the low grade imbecile, attaining its highest developmental status in the high grade moron. That the highest types of feeble-minded children show some reasoning ability and a capability of forming judgments, cannot be denied. The moral sense is

merely an outgrowth of mental and physical experiences, coupled with innate instinctive elements, which latter are a natural and normal heritage. Its external or objective manifestation is evidenced solely by the conduct of an individual; therefore, in deducing data relative to the moral sense, one must necessarily draw conclusions from the volitional acts of the individual and not from purposeless and simple psycho-neural reflex acts. Referring to some former statement that the feeble-minded child differs only in degree from his normal brother, we must grant the presence of volition, in truly a lower scale of development. Granting, then, the presence of volition, which is that function of the mind that deals specifically with will-power, we must admit, then, the presence of the faculty of reason and judgment. The latter implies a power of mental selection; a power of deliberation and discrimination as to the value of any intentional act, or acts, should it, or they, be allowed to go on to performance or realization; consequently one must admit the presence of a certain capability of anticipating the outcome of contemplated acts. Then, presuming that the experience of an individual has been such that he knows the value of acts, his conduct will be as his judgment decrees. (We might except impulsive acts, which are not correlated or inhibited within the realm of consciousness and are more or less instinctive.) The scope or extensiveness of the moral sense depends upon the height of development of judgment, and ultimately on the degree of development of mentality. Thus there is a capability of a wide variation in the moral sense, as there is in the power of judgment and the faculty of volition. A perfect power of judgment and volition, an impossibility, would predicate a perfect moral sense; and, conversely, an imperfect power of judgment and a weak will power would predicate an imperfect moral sense. A normal moral sense does not necessarily mean a perfect moral sense. It means, however, a capability of so regulating one's conduct that it may be in accordance with the moral code of that particular social organization in which one is born and lives, and depends on its laws and customs, which, in turn, originate from social, political, and religious principles. Then, from an individual with a normal moral sense, one would expect that he adjust his acts to good ends, be they personal or general, always provided, however, that they do not militate against the moral code, the laws, the customs

of that social organization to which he belongs. Now, granting the existence of a normal moral sense, one must admit the existence of an abnormal one in some individuals. That is the entity, the feature of the mental defective, that interests us the most, and is by far the most important. An abnormal moral sense is present in all the individuals classed as feeble-minded, excepting the idiots, who are truly amoral, or unmoral. These latter are, as the terms imply, utterly devoid of the moral sense. Their mental development suffered arrest long before the dawn of reason, by disease process, or by congenital factors, so that they present only the infant's mentality and the infant's absence of moral sense. They never attain to the mental age when capabilities of reasoning and forming judgments are acquired. Truly, acts are present, but these are usually simple reflexes, and quite purposeless. There is an inadequately developed mentality which does not permit them to adapt acts to definite ends.

The lower grade imbeciles show only a rudimentary development of the moral sense. Yet the latter, though indistinct, is present. Their faculties of reason, volition, judgment, perception, truly, are in a chaotic state, yet they have sufficient development of intelligence to know, at least in part, the value of an act. By training and systematic discipline, they soon realize that their conduct must be adapted to their environment. They are more or less amenable to rigid discipline, which demonstrates that there is present, in their dim field of consciousness, a recognition, developed from experience, that certain acts must not be performed. The moral reason for such an abstinence from any specific act may not present itself to their minds, but there is a hazy recollection of former analogous acts and their consequences left there as an indelible mark by experience, and, in consequence thereof, they refrain from a performance of the act almost automatically—I say automatically, because they are incapable of analyzing their motive for abstinence; yet their former adventures in the field of psychical and physical experiences act as deterrents.

Leaving the study of the moral sense as seen in the imbeciles, and going a step upward, we advance to the class of the morons. Here we have manifest a greater degree of intelligence: a higher developed function of volition, reason, judgment, and, also, a higher developed moral sense. But along with this increased or more highly differ-

entiated intelligence, we have also an increased capacity for mischief, crime, and immorality. The individuals of this class can tell, in a very glib way, the difference between right and wrong; whether a hypothetical act is good or bad. However, they lack that adequate and normal mental poise; that height of reason, intellect, judgment, that enables them to maintain a normal equilibrium. Their acts are not regulated, nor adjusted to reasonably good ends. They lack the seemingly perfect power of adaptation to conditions and circumstances that makes the normal individual a favorable and valuable unit of society. Their moral sense is not sufficiently developed to enable them to maintain normal social relations. Their reaction to impulses may be normal primarily, but secondarily, as evidenced by their acts or conduct, it is abnormal, by virtue of the fact that they do not receive that inhibition, that searching deliberation, that a normal mind or a normal consciousness exerts over all impulses. Dr. Fernald, in speaking of the feeble-minded, says: "Every imbecile, especially the high grade imbecile (our moron), is a potential criminal, needing only the proper environment and opportunity for the development and expression of his criminal tendencies. The unrecognized imbecile is a most dangerous element in the community."

What is the so-called instinctive criminal? The recidivist? The moral imbecile? These terms in their ultimate meaning and application are synonymous, and designate simply a feeble-minded individual. The highest types of these, the instinctive criminals, moral imbeciles, recidivists, represent simply our moron class, and the great number of border-line cases of mental defects, which latter are probably the most dangerous on account of the fact that they are unrecognized. I firmly believe that the term "moral imbeciles" should not be used specifically to designate a particular class of the feeble-minded, for moral imbecility is a condition or symptom found in, and most intimately associated with, all the feeble-minded, excepting the idiots who have not a weak, or poorly developed moral sense, but a total absence thereof, as mentioned before.

Now, what are the characteristics of this class as described by various authors? In what are they supposed to differ from the general class of feeble-minded? This class is reputed to be deficient in moral sense. What defective is not? "The moral imbecile is an egoist; his cunning,

shrewdness, frequently associated with profound stupidity" in some things, are well marked; his proneness to mischief, more often destructive, less frequently simple, are signs found in all the higher developed feeble-minded. "His power of attention and concentration of thought is poor; his will power is deficient; his ideas are more or less unassociated; his lack of foresight and judgment and his early delinquency" are signs found in all the higher types of feeble-minded children. Thus it will be seen that it would be better to use the term moral imbecility in simply a descriptive sense, designating a part of the symptom-complex presented by the feeble-minded.

Now wherein lies the menace accruing from the condition? Are there reasons why the mental defective should be segregated? During the period of childhood, especially after the child begins attending school, the first social and radical difficulties become manifest. Through his deficiency his advance is retarded so much that in attempting to bring him up to the standard, his teacher's attention is naturally distracted from the other children, to the subsequent disadvantage of the normal child. Even now the child may be troublesome, thievish, untruthful, and indolent; however, indolence too often means inattentiveness, and the latter often signifies feeble-mindedness. As the child grows older, pernicious habits are acquired, and from being the instructed, they soon become the instructors; usually the feeble-minded child is much older chronologically than his classmate. His experience, especially along the lines of immorality, is greater and more varied. His instincts, quite uncontrolled by reason of a deficient intellect, judgment, will-power, and moral sense, become the controlling factors in his mental and physical make-up. The uncontrolled instincts soon engender habits, more or less pernicious, and these once acquired, their repetition becomes easier and easier of performance, until finally all attempt at repression is lost. Thus, ultimately, the instincts may so completely control the individual that the tendency to inhibition of wrong impulses is entirely obliterated. With the power of inhibition gone, the individual becomes a prey to impulses, be they good or bad. They become then like a rudderless ship, cast hither and thither on the sea of life, no definite purpose marking their course, wandering onward and onward, aimlessly, wherever impulse beckons them and their acts lead them, truly derelicts on the sea of life, until some

institution gathers them within its gates, occluding the fierce and bitter struggle of the world; there at last they find protection and the companionship of those who are their mental equals. You know their capability for advancing; you know that the struggle for existence is always present and even one of normal mentality finds the struggle keen. To them, then, the paths offering the least resistance, and entailing the least effort, present the most feasible and alluring possibility, and these too often are the paths of vice, crime, or pauperism, unless it fortunately happens that they are sent to an institution before definite evil propensities have an opportunity for development. They have not the adequate foresight, the superb discrimination manifested by the mind of normal intelligence; an impulse finds its way to their limited area of consciousness and an act results. The impulse is not sufficiently considered, nor subsequently correlated. To them the impulse, which is the harbinger of the act—any act—is the most important entity. If that impulse is radically wrong, or immoral, it goes on uncontrolled, uncorrelated, uninhibited, to performance. The result? It may have been criminalistic in its tendency or effect, yet it is performed! Does the act predicate untellable harm, or mean unspeakable horror? The probable consequences of an act are obscured by the intensity of the impulse. The impulse must be satiated; it may mean murder, assault, larceny, arson, gratification of sexual passion; in fact anything from a misdemeanor to a grave crime. After the gratification of the impulse, when brought face to face with the wrong committed, they may show remorse, promise most faithfully never to perform the act again, but the remorse is soon forgotten; the promises are mere "resolutions that break themselves in the making," and a repetition of the act becomes highly probable, and will be performed when the opportunity presents itself, or when the impulse again seizes them.

"An imbecile is a potential criminal, needing only the proper environment and opportunity for the development and expression of his criminal tendencies!" Should the feeble-minded be segregated from society? Should they be placed there where they receive protection and live a happy life—a life of comparative usefulness and value? Should they be allowed to enjoy the companionship of their mental equals? Should society be protected from them? Apparently society thinks

not—especially not until they have committed some grave wrong; until they have borne several illegitimate children who are given as their birth-right the enviable bequest of bastardy and imbecility, their only and normal heritage; not until they have further populated the world with degenerates and the generally unfit; not until the male youth has demonstrated himself a rapist; not until the female moron, often pleasing of features and figure, has spread broadcast the germs of gonorrhoea and syphilis to the developing youths who come in contact with her; not until either male or female child has been dragged into court repeatedly on charges varying from misdemeanors to felonies; and again, not until they have perpetrated a crime so grave, so revolting, so horrible, and yet, withal, so apparently motiveless, that one almost suspects it to have been the act of some mental defective; not until they have worked untold harm in the community where they commit their depredations, and especially not until their minds, their development, have reached a standstill, and further right training toward some useful and advantageous end has become an impossibility; yes, not until the public itself has become sufficiently educated and aroused to the import of the menace that crime, degeneracy, pauperism, insanity, epilepsy, illegitimacy, prostitution and venereal diseases constitute, and see and understand how closely these conditions are inter-related.

That is where your duty lies. Correct erroneous, preconceived notions whose very validity you yourselves doubt. This question is an extensive one: on our treatment of this problem today depends the magnitude of the social and economic burden of tomorrow. At the present moment we hear the principles of eugenics told and retold; we strive for a betterment of the human race; but before eugenics can make a stride of any great moment, degeneracy and its potential initial factors, feeble-mindedness, epilepsy and insanity, pauperism, crime, and prostitution, must be eradicated as far as possible. Humanity needs a gigantic house-cleaning!

So let us relinquish our personal prejudices and maudlin sentiment, and essay the betterment of the human race on true eugenic principles. In matters of social, or public, or universal import, let us efface our egotistic principles and adopt and act the altruistic notions that a highly developed moral sense or ethical feeling predicates. We need not eradicate the personal equation, we should

nurse it, augment it; yes, treat it from the standpoint of what the possessor of it really is—a unit of society; a part of humanity; a highly evolved organism, still striving for a much greater height of development.

ARE IDEALS WORTH WHILE?*

BY EDWARD EVANS, M. D.,

LA CROSSE.

It is both a pleasure and a gracious privilege for me to be here this evening. You have set before you a *new* ideal, an ideal worth while. If you had not, Dr. Bardeen, Dr. Ochsner, Dr. Faville and the other distinguished speakers here would not be breaking bread with you tonight. Neither would I.

At this celebration of the rebirth of Medical Education in Wisconsin, we rejoice with you, and we hail with delight the passing of an anomalous and peculiarly American creation, medical schools independent of University control and strangers to University ideals.

In all walks of life, but perhaps especially so in medicine, knowledge of the past—perspective—does much to save us from what Dr. Osler calls Chauvinism; and in our profession there are surely great names to serve as ideals, whether we are professors or practitioners. But in a broader sense, in a world view, it has always been great ideals that have made the world go forward, and ever onward.

And in this progressive movement, medicine lagged not behind the other sciences and the possibilities of her time: Witness the great medical school at the beautiful city of Salerno in the Eleventh Century, which required a *preliminary classical* course of three years, a four years' course in Medicine, and one year of work under supervision, before allowing the student to take up private practice—the ideal *we* now are striving for.

There, too, the faculty of the Department of Women's Diseases was composed entirely of women, and that without the insane militancy of a Pankhurst, or a Catt.

In Bede's *Chronicles of Early English History*, what a wonderful grasp of a world ideal is revealed. Read St. Augustine's "City of God", the first systematic treatise written on the social state, for an

*Address delivered at the Banquet to celebrate the reorganization of the Medical School of Marquette University.

ideal sweep of vision—such world ideals were needful for the conquest, pacification and civilization of a barbarous, warring world.

The substitution, in the 17th Century, of the Divine Right of Kings for this early ideal of the Divine Right of God, has led to many disadvantages, chief among which is the substitution of a narrow individualism for collectiveism, or what might better be called fraternal co-responsibility.

Without following this thought farther, the observing student must have seen during the last century a gradual and progressive lessening of the Spirit of Reverence, a disrespect for authority, a restlessness, a dominance of the spirit of doubt, and an unjustified self-reliance or self-sufficiency and, too often, in the mob-mind, at least, a substitution of sentiment for the solid facts of experience.

This tendency, its demoralizing influence and what it is costing us, has been well depicted and excoriated by Agnes Repplier in some of her recent essays.

This spirit has led in the realm of philosophy to Pragmatism, and in religion to Modernism; neither of them conducive to fixed standards of right and wrong; neither formative of high ideals.

Never were ideals—high ideals—more needed in our profession than to-day, for never, I believe, did the art of medicine lag farther behind the science than now.

Never were great leaders grouped in our medical schools and medical centers more needed. Never in the field of practice were great men to look up to, ethically and professionally, more needed—veritable St. Johns crying in the wilderness—to lead the rank and file out of the slough of gross commercialism, back to the high ideals exemplified in the great names throughout the pages of our professional history.

Two examples of worthy ideals in professional life occur to me at this moment—the first is exemplified by Osler in an inspiring essay called "The Master Word", which, needless to say, is Work. What an ocean of trouble it protects us from, and our patients, what a world of woe it saves them from.

The second ideal is also furnished me by Dr. Osler. He tells how in one of the eastern cities he attended one evening a medical banquet where he noticed two old men, great chums. On inquiry he learned that they had been neighbor practitioners for over forty years. Next morning he had them

sit for their picture and it holds the place of honor over his desk ever since.

It is an example of that brotherly love which should be more cultivated amongst us,—an ideal worth while.

Recent legislation against fee-splitting has drawn the eyes of the country and brought shame and humiliation upon us. This moral contagion, spread to Wisconsin, from each side of us, and from high places, was never so virulent or epidemic as reported. Its cure may be helped by such legislation, its prevention and ultimate eradication, however, are dependent on proper ideals—educational, ethical and professional. To you we look to so educate your students that their professional success will not be measured by business standards—for science is its own reward. Let the medical man devote himself to his profession with singleness of purpose, and financial success—the lowest standard of measurement, after all,—will follow.

Why do I dwell on these things more fitted, you will say, for medical students than a learned faculty, such as I am addressing.

My reason is this: To you is entrusted the education of those who tomorrow will fill your place. The ideals you give those students will furnish the main spring for their actions throughout their professional career.

If we were to take as our standard the minimum standard demanded by Germany, by England or by France, for the establishment of a Medical School, we would have to close up at once more than two-thirds of the Medical Schools in our country.

For more than a decade medical schools established in Milwaukee were amongst some of the worst offenders and so numerous were your graduates that almost twenty-five per cent. of the practitioners of this fair land of Marquette are graduates of those schools. Not all of them, fortunately, nor, let us hope, not most of them are undesirable, but certainly all began their life work improperly prepared.

Now, all this is changed. You have raised your standard and splendidly strengthened your faculty. We hope for good things from you. We will watch you and your work, sympathetically, if critically. A humble worker out in the field of practice, rejoicing with you in this advancement you have made, I wish to you, Rev. President of this University, to you, the Dean, and your faculty, God-speed and a full realization of your ideals. The

dream of to-day is the accomplishment of tomorrow, and "he who aims at a star, though he never hit it, is sure to shoot higher than he who aims but at a bush."

CANCER AND THE CANCER PROBLEM.

BY WILLIAM E. GROUND, M. D.,
SUPERIOR, WIS.

To my mind the cancer problem is the most important problem that the medical profession has to deal with today. The situation is not unlike that concerning tuberculosis a decade or so ago; that is, one of hopeless helplessness. We all know what a popular educational propaganda has done for the consumptive, and to a lesser extent for other forms of tuberculosis. The same thing can and should be done in the case of cancer. Cancer is even more curable than tubercle. In fact, cancer is one of the most curable of diseases, instead of the most incurable, as is generally supposed. Being in its incipiency a purely local disease, without constitutional taint, makes it amenable to eradication. The primary location of cancer is more accessible as a rule than tuberculosis and hence more available for treatment. For efficient treatment the same problem presents itself, namely, early diagnosis. The cases of cancer that come to the surgeon now are largely advanced cases and therefore inoperable and incurable. The point is to recognize cancer early, if possible before it is cancer. The latter seemingly impossible task can be done many times by the recognition of pre-cancerous conditions. It will be one of the main objects of this series of short talks to emphasize these frequently discernible lesions.

The whole literature of cancer is in such a disheveled state that the great advances that have been made are lost to the view of the average busy practitioner. The only way to diminish the dreadful mortality from this disease is to turn on the light. This light must be turned on the people through the profession. The medical profession is slow to realize its great power for helpfulness in the matter. It must be remembered that until recently about all the medical education the people got was through the medium of the quack and the patent medicine faker, and it is no use for me to take up time telling what kind it was.

We know that every year approximately 75,000 people die in the prime of life in this country from cancer. It is usually said that cancer is a

disease of advanced life, but this is not strictly so. After 60 years of age the proportion of cancer deaths to deaths from all causes rapidly diminishes. Most deaths from cancer occur between 45 and 60, the time of life when men and women reach their zenith, are mentally and morally mature, and have sifted the frills and fancies out of their experience, if they ever do.

As evidence that the situation is becoming more hopeful let me refer to the well known fact, that the distinguished Philadelphia surgeon, Dr. D. Hayes Agnew, said in 1890, that out of many hundred operations for breast cancer he had never cured a patient. Dr. Agnew never operated until the signs of cancer were unmistakable. Recently Dr. Bloodgood examined a patient operated upon by Dr. Halsted in 1890. The cancer had not come back. Dr. Bloodgood gives the results of operations for breast cancer in Johns Hopkins Hospital as 47 per cent. well after five years. A great improvement over a generation ago, but yet far short of what it should be. Forty-seven per cent. of cures against nothing, as the result of the efforts of a few earnest men! Just think of the difference it would make if the entire medical profession got in earnest in the matter!

The determination of the American Medical Association to wage an educational propaganda is a wise one, but, to my mind, it would be wiser yet if every state society would devote considerable space on their programs to the consideration of the cancer question, and the local medical societies could materially advance the cause by having a cancer session once or twice a year, or otherwise featuring the subject. Many state societies have already done this, but all should.

We know that modern medicine has robbed the most terrible diseases of their terror, and that the emasculation of many more is being accomplished, but the bete noir seems to be cancer. While we know much that is practical with regard to cancer, with the precise causative factor we are still in the dark. The veil is still unrent, the secret is yet hidden, and we wait with breathless anxiety the revelation from the investigator. While we fully realize our lack of knowledge as to the absolute cause of cancer, we must keep our eyes on the goal, *and especially keep our minds open to the more important fact that our knowledge of the processes of malignant diseases, of the struggle of the living organism against it, and of the means*

by which we may relieve or cure cancer, has advanced and is advancing in a most hopeful manner.

That cancer is on the increase is probably true, yet some seem to think that the increase is more apparent than real. They contend that the reason more people die of cancer is due to the fact that more live to the cancer age. Still, after all, to the unprejudiced observer it does appear to be on the increase.

This point I will discuss fully in my next paper, together with the nature and distribution of cancer in the animal kingdom.

TREATMENT OF PERITONSILLAR ABSCESS (QUINSY).

BY P. J. CALVY, M. D.,
FOND DU LAC.

I know of no other acute throat disease which comes under the care of the general practitioner in which the treatment is less satisfactory than peritonsillar abscess, commonly called "quinsy."

In sizing up an infection of the tonsil, we will find we are called upon to speculate as to whether we are going to have an abscess form or not. You see the characteristic swelling beginning to push forward the upper anterior pillar and often in your desire to relieve the patient, you lance through the pillar only to be disappointed in not striking an abscess which discharges pus. You wait for twenty-four to forty-eight hours and determine fluctuation and try again, and you are successful in opening an abscess to the great relief of your patient and yourself, but your patient has had to suffer just so much more pain and absorbed just so many more toxic products as the result of the delay. The purpose of this short paper is to describe the method, which in my hands has proven very successful in a couple of dozen cases in cutting short the usual course of such diseased condition. I am not aware that it is practiced or taught by anybody. If so, I would like to hear from them as to the results.

As soon as I have determined the probability of an abscess forming, I take a curved instrument, preferably a tonsil scissors, and thoroughly separate the anterior pillar from the tonsil, from top to bottom, clear down to the base. This will give you drainage of the infected area. You will usually find the tonsil better the next day; if not, you can repeat the operation, keeping the pillar separated

without much pain or discomfort to your patient, and in my hands I have never had it fail to cut short the course of the disease and prevent the formation of the abscess. I have had a few cases, which had formed the abscess when first seen, but the patients, remembering the former pain, which they experienced in other attacks, were very nervous and unwilling to have the abscess lanced, but when I separated the pillar from the tonsil, I immediately got the pus, or it broke through the line of separation in a few hours, giving the desired relief. The advantage gained is that the course of the disease is shortened when the separation is done early enough. Pus, if it does form, very readily finds an exit through the line of separation and the operation is infinitely less painful than cutting or lancing through the anterior pillar, which is the usual method.

A CASE OF TRICHINIASIS WITH AN UNUSUAL BLOOD PICTURE.*

BY HUGH E. COOPER, M. D.,
WAUWATOSA, WIS.

The blood pictures in the various cases of trichiniasis from time to time reported, have shown a very wide variance but almost all cases have shown some relative increase in the number of polymorphonuclear eosinophiles and also some leukocytosis. The case in hand although a case of little severity gave both a high leukocytosis and an extremely high degree of eosinophilia. These eosinophiles, according to most authorities, arise in the bone marrow, as do the other polymorphonuclear leukocytes. The history of the case with the blood examinations is as follows:

F. E. (Hospital No. 13193), a white man of German extraction, came to the hospital on August 21, 1913, complaining of diarrhea, slight pain and tenderness in the abdomen and headache. The patient came in with a tentative diagnosis by his family physician of typhoid fever. On questioning the patient it was found that he had been sick, in bed most of the time, for two weeks previous to his entrance into the hospital and that a physician had not been called until the day before admission. During this time he had had diarrhea almost constantly and probably some fever as he states that he felt hot and cold by turns. There was no dis-

*From the Medical Clinic of Milwaukee County Hospital.

tinct chill. There was also some pain and tenderness at the sides of the chest which was increased by the movements of respiration. The patient gave no history of having eaten raw or partially cooked meat of any kind.

On admission the patient was seen to be a rather short, well-built man weighing about 160 pounds. The face was somewhat flushed, the patient seemed rather dull and apathetic and there was a well marked edema of the eyelids, giving him somewhat the appearance of a nephritic. On physical examination the heart and lungs were apparently perfectly normal. The abdomen seemed tender and was held somewhat rigidly. The physical examination showed nothing else of interest. The diagnosis was withheld until examinations of the urine and blood could be made.

A count of the leukocytes was made on the day of entrance and showed 23,500 leukocytes. A smear of this blood was then stained with the Nocht-Jenner stain and a differential count of this stained specimen gave these surprising figures:

Polymorphonuclear Neutrophiles..	18.0%
Polymorphonuclear Eosinophiles..	72.0%
Polymorphonuclear Basophiles....	.5%
Small Lymphocytes	1.5%
Large Lymphocytes	1.5%
Transitional Leukocytes	4.5%
Large Mononuclear Leukocytes....	2.0%

Other stains were made to verify this count, one of these stains showing an Eosinophilia of 80%. This of course turned the scales very strongly in favor of trichiniasis even though at this time there was no soreness of the muscles which is so typical of the ordinary case.

The attack as stated above was of slight intensity. The fever was intermittent in character, reaching 102-3° in the afternoon and dropping down to normal in the early morning. There was no increase in pulse or respiration. The diarrhea which was present at the time of admission was checked within two or three days after entrance. The adult parasite, *Trichinella Spiralis*, was never found in the stools. One week after entrance the fever began to decrease and on the tenth day was practically gone. The patient was kept in bed for a week after the temperature was normal and during this time had some slight soreness in the muscles which he probably would not have mentioned had he not been questioned on the subject. There was not enough localized tenderness in the muscles to

enable one to excise a portion with any degree of certainty of obtaining the encysted larva. Several differential counts were made during the first ten days that the patient was in the hospital. The amount of eosinophilia remained about the same until several days after the temperature had become normal, when the count showed the eosinophilia to be decreased to 55%.

On the second day after the patient was up and about the ward his first real muscular soreness developed. This was localized in the muscles of the calf of the right leg. The leg became swollen and indurated and very painful. There was little or no redness of the skin covering the part. This condition persisted for three or four days and gradually subsided when the patient was discharged. Just before leaving the hospital, apparently recovered, another count was made which still showed an eosinophilia of 40%. the picture being as follows:

Polymorphonuclear Eosinophiles....	40%
Polymorphonuclear Neutrophiles...	37%
Polymorphonuclear Basophiles	1%
Small Lymphocytes	13%
Large Lymphocytes	4%
Transitional Leukocytes	5%

BOOK REVIEWS

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical & Surgical Sciences, edited by Hobart Amory Hare, M. D., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College, Philadelphia, Physician to the Jefferson Medical College Hospital; one time Clinical Professor of Diseases of Children in the University of Pennsylvania; Member of the Association of American Physicians, etc., Assisted by Leighton F. Appleman, M. D., Instructor in Therapeutics, Jefferson Medical College, Philadelphia; Ophthalmologist to the Frederick Douglass Memorial Hospital; Instructor in Ophthalmology, Philadelphia Polyclinic Hospital and College for Graduates in Medicine.

Volume 16, No. 1, March, 1914. Surgery of the Head and Neck, by Charles H. Frazier, M. D., Surgery of the Thorax, Excluding Disease of the Breast, by George P. Müller, M. D., Infectious Diseases, Including Acute Rheumatism, Croupous Pneumonia, and Influenza, by John Ruhrah, M. D., Diseases of Children, by Floyd M. Crandall, M. D., Rhinology and Laryngology, by George B. Wood, M. D., Otology, by Arthur B. Duel, M. D.

MATERIA MEDICA, PHARMACOLOGY, THERAPEUTICS AND PRESCRIPTION WRITING. For Students and Practitioners. By Walter A. Bastedo, Ph. G., M. D., Associate in Pharmacology and Therapeutics at Columbia University. Octavo of 602 pages, illustrated. Philadelphia and

London. W. B. Saunders Company, 1913. Cloth, \$3.50 net. W. B. Saunders Company, Philadelphia.

This excellent work does not confuse the reader with a mass of contradictory experimental data but gives the author's opinions clearly and distinctly with a sufficient number of references to sources to permit and to encourage collateral reading.

The grouping of the subjects is commendable, the discussion of each substance is compact and systematic and comprehensive, so that although the volume is not of an excessive size it contains a vast amount of useful information in an available form.

The discussion of the laxatives and cathartics, digitalis, epinephrine, caffeine, strychnine, alcohol, the hypnotics, opium, the diuretics, arsenic, all might be mentioned as being especially commendable, but where all is good it is hardly necessary to particularize.

THE EARLY DIAGNOSIS OF TUBERCLE, by Clide Riviere, M. D., F. R. C. P., Physician to Out Patients, City of London Hospital for Diseases of the Chest, Physician to East London Hospital for Children. 252 pages. Price, \$2.00. Oxford University Press, 35 West 32nd Street, New York.

In this valuable volume the writer has confined his attention to a study of the essential elements of diagnosis in early pulmonary tuberculosis of adults and in tuberculosis of the thoracic glands and hilus tuberculosis in children.

In the first of these divisions the subject is considered under the headings of Introduction; Clinical Diagnosis, with the sub-heading Symptoms, Physical Signs, and Differential Diagnosis and Illustrative Cases; and Special Diagnostic Tests. How to use Them, Roentgen Rays, Tuberculin. Temperature, Autoinoculation Test, Sputum, Other Tests. In the second section the Introduction considers the Thoracic glands and their Relationship, and under Clinical Diagnosis are discussed Symptoms, Physical Signs, Pressure Signs and Symptoms, Illustrative Cases, Differential Diagnosis. Under Special Diagnostic Tests are found Roentgen Rays, Tuberculin, Temperature, Sputum.

Early in the book the author quotes the remark of Pottenger that "the first and most important point in the diagnosis of phthisis is to know when to suspect it"; a thoroughly practical point which can not be emphasized too strongly.

One of the important features of this work is the detailed consideration of the older methods of physical diagnosis which have really lost none of their importance, even though the student or practitioner of today may have failed to acquire skill in their use on account of the apparently greater ease and attractiveness of some of the modern methods.

Dr. Riviere has not neglected the newer methods, but he has placed them in their proper relative position.

ABSTRACTS

ON "SPONTANEOUS HEALING" OF GLIOMA OF THE RETINA. Lindenfeld, Berta, Warsaw. (From the eye-clinic of Prof. E. Fuchs in the University of Wien. von Graefe's Archiv für Ophthalmologie, 36, p. 141). A child, aged 4 years, with exulcerated glioma of the right

eye and shrunken left eye, was brought to the clinic. At the age of 6 months, the parents noticed in the dark a shine from both eyes like in a cat. Gradually the left eye grew much larger than the right, which now and then was red and painful. At the age of 11 months, the diagnosis of gliosarcoma was made and the removal of both eyes advised, which was refused. Then the left eye began to shrink. At the age of 2½ years, a white tumor of the right eye was noticed, which grew from below upwards and gradually covered the pupil and iris. After a month the tumor spread over the whole eye and proliferated from the interior. At admission a brownish red exulcerated tumor of the size of the fist of a child projected from the palpebral fissure. The left eye was extremely shrunken and lay deep in the orbit. Both eyes were enucleated and gray masses in the right orbit exenterated with following thermo-cauterization.

The left eyeball was filled with connective tissue, partly calcified and ossified, no traces of the ocular tissues were left, nor of glioma cells. The optic nerve was atrophic.

The ectatic right eye was occupied by a typical glioma of the retina, which also involved the optic nerve. Although not histologically proven, the anamnesis and the course of the disease showed without doubt, that the left eye had been affected by glioma. Thus by a complete necrosis of the tumor a so called spontaneous healing may occur, but only with shrinking of the eye. Literature contains only 2 similar cases, by Knieper and de Kleijn.

C. ZIMMERMANN.

ACUTE BLINDNESS IN CEREBRAL ABSCESS. Pagenstecher, H. E., (From the clinic of Prof. E. Hertel in the University of Strassburg. Archiv für Augenheilkunde, 75, p. 355), reports the clinical histories and autopsy of 2 cases, of abscess of the occipital lobe, in the first unilateral, in the 2nd bilateral. The first and only important symptoms in both cases was total, or almost total, acute blindness, with normal fundus and preserved pupillary reaction. The cause of the abscesses in both were metastases from the lungs, i. e. purulent bronchitis or bronchiectatic cavernae. After having existed for some time they suddenly caused blindness. A few days after the occurrence of blindness death followed under violent symptoms, in the 2nd case in consequence of breaking into the ventricle. The symmetrical abscesses of both visual centers in the second case produced the acute amaurosis partly by direct destruction of the centers, partly by interruption of the visual paths within the corona radiata. The explanation of amaurosis in the first case of abscess in the right occipital lobe was not so easy, as one would have expected hemianopsia instead of an almost total amaurosis. P. thinks that through the localization of the abscess near the ventricle an internal pyocephalus caused the transient, almost total, amaurosis by compression of the optic nerves at the floor of the 3d ventricle. The amaurosis, observed on the first day, disappeared on the 2nd day and vision improved on the 3d when the patient died. Also in the 2nd case a transient visual sensation returned for a few hours before death.

C. ZIMMERMANN.

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EDITORIALS

PRELIMINARY ANNOUNCEMENT OF PROGRAM FOR OCTOBER MEETING.

The following is a preliminary outline of the program for the next state meeting at Oshkosh, in October.

The afternoon of October 7th will be devoted to what may be called Social Medicine. At 2 p. m., Dr. C. S. Sheldon, the president, will deliver his address. This will be followed by papers on State Boards of Medical Examiners and their Influence on Medical Education; Our State Tuberculosis Sanitarium, and the Tuberculosis Problem. Medical Education, a Retrospect and a Forecast. Deductions drawn from the examination of 5,000 students at the University of Wisconsin. Social Insurance (the Compensation Act) and the Medical Profession.

The whole of October 8th will be devoted to two subjects, "Infections" and "Fractures." The symposium on Infections will include papers as follows: Inflammatory Processes—Causes and Pathologic Anatomy. Infections of the Nose and Throat, and Accessory Sinuses, with Special Reference to their Relation to General Practice. Cryptogenic and Allied Infections of Surgical Import. Puerperal and other Pelvic Infections. Pneumococcal Infections. Vaccine Therapy.

In connection with this symposium, Dr. Frank Billings will give the address in Medicine. His subject will be Focal Infections and Their Relation to the Systemic Disease.

The symposium on Fractures will contain

papers on the General Principles Underlying the Treatment of Fractures; Open Treatment of Fractures; Pathology of Fractures; Some Special Fractures; Fractures of the Skull. The address in Surgery will be delivered by Dr. A. R. Colvin, who will take for his subject "The Diagnosis of Disease and Injuries of Joints."

The program for the third day of the meeting is in charge of our energetic Secretary, and will be devoted to Ethics, Economics, and Organization. It will be remembered that heretofore the County Secretaries' Meeting has been held the day preceding the general meeting. This year, through the suggestion of Dr. Sleyster, it is postponed to the third day, and will be held in connection with the general session, and form the backbone of the program for this day. By this means the last day should be the most interesting and valuable of all to those in attendance at the meeting, instead of being as it always has been heretofore a meeting which was attended by very few, and making it a very painful task for anyone to attempt to present a scientific paper. I think we can depend on Dr. Sleyster and the County Secretaries to make this last day so important and interesting, that everyone in attendance at the general meeting will be more than willing to sacrifice his time, because of the valuable hints and suggestions that will be contained in the work presented. Those who have had voice at any time in the State Society, know that there is a good deal of criticism, some knocking, and not enough boosting in the general membership. This meeting will give an opportunity for all to get together and thrash things out.

In dividing the program for the first two days into what may be roughly classified as Social Medicine, Internal Medicine and Surgery, the aim of the program committee has been to try and build up a program that will deal more or less exhaustingly with a few subjects rather than the old fashioned hit and miss program usually presented at State meetings. In doing this, they felt that the two subjects of Infections and Fractures were those of greatest general interest to the general practitioner and they are also the two subjects most often leading to dire results, when diagnosis has not been promptly and correctly made and proper and prompt therapeutics instituted. In making up the program, an effort has been made to have the papers of such a character that those on infection must interest the surgeon, as well as the internist and general practitioner, while those on fractures must necessarily be of importance to every one in the practice of medicine, except a very few engaged in specialties. Your committee has also felt the time is opportune for as full a discussion as time will allow of the topics included under Social Medicine. Your committee, therefore, hopes that though this program may not meet with the undivided approval of the profession, adverse criticism will be abstained from until the plan has been tried out.

Several of the papers will be illustrated by lantern slides, and through the courtesy of the profession in Oshkosh, arrangements will be made for a systematic display of a large number of X-ray plates, illustrating the character and treatment of a great number of fractures. Any one of us, acquainted with the splendid and original work being done in Dr. Billings' Clinic on Infections, must know that it will be well worth our while to go to Oshkosh for his address alone, which is bound to be stimulating and suggestive for every one. Dr. Colvin, of St. Paul, has devoted years of close study and observation to Joint Affections, and is sure to give us a thoughtful and philosophic paper, which the committee feels safe in predicting will be the most valuable address in Surgery that we have had in many years.

The committee again appeals to the general profession to study this preliminary outline; let each one see what he is more especially interested in, and come to Oshkosh prepared to give a full, intelligent and independent discussion of all the papers.

E. EVANS,

Chairman Program Committee.

THE PROGRAM FOR THE NEXT MEETING.

When the announcement was made that Dr. Edward Evans of La Crosse had been appointed Chairman of the Program Committee for the next meeting there was a general feeling that something was about to happen. It has happened! Read the preliminary program given above and see for yourself!

Here we have a striking off along new lines. Instead of an indigestible mass of disconnected papers we have groups of papers gathered around three or four general topics. The topics themselves have been chosen with a view to their general interest and the result is a program of the greatest promise.

This method of building up a program might not prove satisfactory if it were followed too rigidly every year, but there can be no doubt about the interest and helpfulness of the program which Dr. Evans and his committee have prepared for the Oshkosh Meeting.

THE WISCONSIN SURGICAL ASSOCIATION.

There are two items of interest to our readers connected with the newly formed Wisconsin Surgical Association which will be found on other pages of this number of the Journal. One of these is the program for the forthcoming meeting. The fullness and variety of material to be presented at the different sessions of this meeting go far to show the need for an organization of this character. There is a wealth of material here in Wisconsin and there are surgeons in abundance who are doing excellent work; the important thing is to encourage a more careful working up of this material and a more thorough study of the problems presented in it, so that the science and art of Surgery within our borders may be advanced. In this respect the Association supplies a definite need.

The other item to which reference has been made is the letter from Dr. Nolte which is published under the heading of Correspondence. Not being acquainted with the reasons which led to the change of wording of which Dr. Nolte complains the editor does not feel qualified to discuss the merits of the case at the present time.

But the fact that the subject is brought up for discussion at all shows that the Association has both a duty and an opportunity.

This Association, if it is to have any excuse for existence, must represent Surgery in Wisconsin, and it must stand for decency and honesty in Sur-

gery in a manner which will leave no room for misunderstanding. Surely we can all agree upon the existence of this duty.

The opportunity which is presented to this Association is a great one. Fee-splitting may never have been very general in Wisconsin, but it did exist and it did seem to be increasing up to the time of the passage of the bill by the last legislature declaring it to be illegal. Before that time it was practiced by some men of ability and of personal integrity, not because they approved of it, but because they did not know how to avoid it. It was of slow growth and the state of mind which made it possible was of gradual development. This state of mind has not been changed by the passage of the fee-splitting bill. It can be changed only by steady and persistent effort to develop a more wholesome sentiment in the medical profession itself.

To help in the development of this sentiment, to help to put aside the mistakes of the past and to uphold a higher standard for the future,—here is an opportunity for tremendous usefulness.

THE CANCER PROBLEM.

There is no subject of greater importance to the medical profession today than cancer. There is no pathological condition in which an early diagnosis is more important. What Pottenger has well said of tuberculosis is equally true of cancer: that the first element in early diagnosis is to know when to suspect it. In order to know when to suspect it we must be familiar with its earliest manifestations and we must know its habits.

The article on the Cancer Problem by Dr. W. E. Ground of Superior which appears on another page of this issue of the Journal is the first of a series of short articles on this subject which we hope to publish each month for the next few months. Nothing could be more timely, and we feel sure that Dr. Ground's papers will be followed with great interest.

CORRESPONDENCE

Milwaukee, Wisconsin, April 3rd, 1914.

To the Editor Wisconsin Medical Journal, Milwaukee, Wis.:

Dear Sir:

Some weeks ago about one hundred men, who either practice surgery exclusively or who are occasional operators, met at the Hotel Pfister and organized the Wisconsin Surgical Association. After some discussion Dr. Charles Lemon, of Milwaukee,

offered the pledge, which must be signed by every applicant to the American College of Surgeons, as the declaration to be signed by every member-to-be of the Wisconsin Surgical Association. The declaration read as follows:

"I hereby promise upon my honor as a gentleman, that I will not, so long as I am a member of the Wisconsin Surgical Society, practice division of fees in any form; neither will I collect fees for others referring patients to me; nor will I permit them to collect my fees for me; nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation; neither will I in any way, directly or indirectly, compensate any one referring patients to me; nor will I utilize any man as an assistant as a subterfuge for this purpose."

I moved that *no one* could become a member of this Association without *first* subscribing to this declaration; and this motion was adopted *without a dissenting vote*. Now, last week, I received a circular letter from the Secretary of the Wisconsin Surgical Association which reads as follows:

"WISCONSIN SURGICAL ASSOCIATION."
"Dear Doctor:

"The Board of Regents of the Wisconsin Surgical Association has deemed it advisable to change the form of wording of the declaration in the application blank for membership. This declaration shall hereafter read as follows:

"I hereby promise, upon my honor as a gentleman, that I will not, so long as I am a member of the Wisconsin Surgical Association, practice division of fees in any form."

"As you have already signed the declaration as originally worded and are now a member of the Association, should this change meet with your approval, kindly strike out the rest of the declaration from your application blank.

(Signed) Daniel Hopkinson,
Secretary."

I do not know whether the Board of Regents of the Association has the power to do this—but I do believe that it is not right or fair to change any part or leave out any part of the original declaration as read, and which was adopted unanimously by the Association. It was clearly the intent that this declaration be adopted, and, after hearing it read, it was clearly the sentiment of the Association that it be adopted—for the members, without a dissenting vote, adopted it. Why the change? What is there wrong about the original declaration? Some will argue that the curtailed declaration covers the ground. But does it? I believe if one is conscientious it might go. But I also believe

that if one is conscientious that the original declaration has nothing in it that will hurt his conscience. I believe in being specific—as one ought to be in any agreement—to avoid being misunderstood. Men are very differently constituted in many ways—also in the way that matters appear to their respective consciences. For this reason, I believe we ought to be clear and specific, so that no one may evade the meaning of the declaration and say “he misunderstood.”

Let no one assume that this is unnecessary. We all of us know that fee-splitting has been so general that it will be difficult to correct this “habit” save by the most stringent means and rules. President J. M. T. Finney, of the American College of Surgeons, in his “Presidential Address” before the first meeting of the college at Chicago, November 13th, 1913, said in part:

“The conception and formation of the American College of Surgeons is simply a bona fide effort upon the part of the profession to cleanse its escutcheon of some of the dark blots with which it is stained. Of these, one of the foulest is the demoralizing practice of fee-splitting. The influence of this hydra-headed monster, insidious and pernicious as it always is, pervades and dominates certain localities in this country to such an extent that the whole moral tone of the profession in those communities is so lowered that its effect upon those who practice it is to be seen and felt in the inferior character of their work. The fact that this practice is so rife in certain states as to prompt the legislatures of those states to enact laws making it a crime to split fees is a sufficient commentary upon the way in which it is regarded by the public and should cause every honest member of the profession to hang his head for shame that in this day, and in this enlightened generation, such a thing is possible.”

Well, Wisconsin was one of the states that found it necessary to pass such a law—and we have not even the poor credit that it was fathered by a medical man—reports and claims to the contrary notwithstanding. Wisconsin has also the disgrace of being among the six worst states in the Union as regards fee-splitting, according to the survey made by the American Medical Association in 1912.

As far back as twelve years, I fought the practice of fee-splitting before the State Medical Society Meeting at Waukesha. At that meeting, it was argued that we might leave this question to the individual's conscience. I am firmly of the opinion that while the majority of the profession is made up of good, honest men, that there are those who have no conscience. And it follows that we

must make clear what we mean in this declaration, and not leave it to these for interpretation, in short, to their peculiar brand of conscience. Shall we return to the spirit of the 1902 meeting of the Wisconsin Medical Society, above referred to, of leaving the interpretation of the declaration to the “individual's conscience?” I most emphatically say, *NO!*

I am informed that the original pledge was amended by the regents, because certain leaders in the Association, though they kept silent at the meeting when it was adopted, refused to sign it. As amended, is it possible that those leaders feel that they can now accept a sum of money for an operation from a consultant, or accomplice, no questions asked, without violating their pledge or without straining their honor as a gentleman? Or is the arrangement “we will do the operation together” not fee-splitting in their minds? We hear of still another way that the initiated practice, which is thought to knock a hole in the anti-fee-splitting law, to say nothing about ethics. Evidently “character and efficiency of service” is not to be the battle cry of the Wisconsin Surgical Association.

Entirely aside: Soon after the birth of the Wisconsin Surgical Association, I began to feel that the creation of this society as a separate body was a mistake. And today, I feel more strongly than ever, especially since the amputation of the five legs of the original pledge, that it should have been made the surgical part (section) of the Wisconsin State Medical Society, and I know that many surgeons agree with me in that view.

Respectfully yours,

LOUIS G. NOLTE, M. D.

NEWS ITEMS AND PERSONALS

DRS. G. I. HOGUE and HARLOW S. ROBY, Milwaukee, have been appointed first lieutenants in the medical corps to be assigned to the 1st Infantry, W. N. G.

DR. I. D. STEFFEN, Antigo, was nominated for mayor on March 25th.

DR. E. H. MENSING, Milwaukee, has been appointed a fellow in surgery in the clinic of the Mayo Hospital, Rochester, Minn.

DR. RUTTENBURG of Bagely has removed to Galesburg, Ill.

DRS. T. R. SPEARS, Washburn and O. O. NELSON of Chicago, have entered into partnership and will practice at Washburn.

DR. A. C. SIDLER, Cudahy, has filed suit against the Town of Lake, Milwaukee County, for a balance of \$1,800 due for work during the smallpox epidemic from June, 1906, to Feb., 1908.

DR. R. C. ALCORN of Walla Walla, Wash., has located at Green Bay, and taken the offices formerly occupied by Dr. Edward Quick.

DR. C. J. STORMONT, has received an appointment from the C. M. & St. P. Ry. as their local surgeon for Viola and vicinity.

DR. D. S. RICE, Stevens Point, has received an appointment as a member of the local board of pension examiners.

The State Board of Health has sent out 3,000 packages containing 23 ampules of nitrate of silver to all physicians in the state to be used in compliance with the new law passed by the legislature that the eyes of all children at birth must be washed in this solution.

The new St. Josephs Hospital at Dodgeville was dedicated on March 19th.

Orders are in print organizing in the City of Milwaukee a field hospital as a part of the Wisconsin National Guard. Officers and sanitary troops, fully equipped for instant duty wherever required will be assigned to this service. There will be a complete detachment of men experienced in sanitary matters to be ready for immediate service in the state at times of fire, flood or other calamities.

DR. F. X. SCHAEFER, under accusation of manslaughter, was arrested after a three years search, in San Francisco, April 4th, while living under an assumed name. Requisition papers have been secured and he will be brought back to Milwaukee for trial.

DR. F. F. SLYFIELD, Algoma, has been appointed medical examiner for the State Life Fund for Algoma and vicinity, by the State Board of Health.

THE CUNNINGHAM HOSPITAL, Platteville, a private institution erected by Dr. Wilson Cunningham was opened on April 1st.

DEATHS

Dr. G. C. McElroy, a resident of Kilbourn, Wisconsin, 25 years ago died on February 25 at his home in Whittier, California.

Dr. George W. Dodge, the oldest physician in the Fox River Valley, former postmaster of Menasha for 12 years, died suddenly at his home in Menasha of pneumonia, aged 73 years. Dr. Dodge was a graduate of the Northwestern University Medical

School—1873. He was a veteran of the civil war.

Dr. C. E. Thayer of Markesan died at the Fond du Lac Hospital, of heart disease, aged 55 years. Dr. Thayer was born in Brandon, Fond du Lac County, his parents being pioneers of that section of the state. He graduated from the Northwestern University Medical School in 1883. He was president of the Green Lake County Medical Society at the time of his death.

Dr. Charles R. Kreutzer, Milwaukee, aged 42 years, died on March 30th. He had been sick for three weeks and in failing health for about one year. Dr. Kreutzer was born in Grafton, Wisconsin, on January 28, 1872. Mainly through his own efforts he obtained an education, graduating from the medical college of the University of Michigan in 1897. In that year he returned to Wisconsin and practiced at Cedarburg until 1902, when he went to Europe for two years of study at the University of Berlin. Returning in 1904 he made Milwaukee his home and resided there up to the time of his death.

Dr. Martin Hagen of Viroqua was instantly killed on March 23, when a runaway team crashed into his horse, throwing the doctor from the buggy onto a rock. Dr. Hagen was 41 years of age, a native of Norway, early an orphan, he made his way to this country when 17 years of age, locating at Cashton. In 1908 he graduated from the Chicago College of Medicine and Surgery, having two years of hospital and city practice in Chicago. He located first at Soldiers Grove, coming to Viroqua one and one-half years ago. He was a member of Vernon County and the State Medical Societies.

PROGRAM OF THE WISCONSIN SURGICAL ASSOCIATION.

CLINICAL SESSION.

Milwaukee, Wisconsin.

Wednesday, Thursday and Friday, April 22d, 23rd
and 24th, 1914.

Headquarters, The Hotel Pfister.

OFFICERS.

President.

A. H. Levings, Milwaukee.

Vice-Presidents.

1. Charles H. Lemon, Milwaukee.

2. W. E. Fairfield, Green Bay.

3. J. M. Dodd, Ashland.

4. C. W. Cunningham, Platteville.

Secretary-Treasurer.

Daniel Hopkinson, 1008 Third Street, Milwaukee.

Board of Regents.

H. M. Brown, Milwaukee; J. V. R. Lyman, Eau Claire; F. G. Connell, Oshkosh; J. F. Pember, Janesville; W. C. F. Witte.

Program Committee.

A. H. Levings, G. W. Fox, Chas. H. Lemon, R. G. Sayle, D. J. Hayes, Edward Quick.

WEDNESDAY, APRIL 22ND.

Clinics.

Dr. J. P. McMahon, Operative Obstetrics, St. Mary's Hospital. 8-10.

Dr. Harry Greenburg, General Surgery, Mt. Siani Hospital. 9-12.

Dr. D. J. Hayes, General Surgery, St. Joseph's Hospital. 9-12.

Dr. R. G. Sayle, General Surgery, Milwaukee Hospital. 2-4.

Dr. M. L. Henderson, Gynecology, Trinity Hospital. 2-4.

Dr. A. H. Levings, General Surgery, St. Joseph's Hospital. 2-4.

Dr. F. A. Stratton and Dr. W. C. Doern, General Surgery, St. Joseph's Hospital. 2-6.

EVENING SESSION.

8:15 P. M. Red Room, Hotel Pfister.

1. The Legal Responsibilities of the Surgeon in Cases of Fracture. Dr. H. Reineking.

2. The Value of Drainage in Basal Skull Fractures. Dr. C. A. Evans.

3. The Operative Treatment of Fractures. Dr. Chas. H. Lemon.

General Discussion.

Opened by

Dr. J. F. Pritchard.

Dr. John M. Dodd.

THURSDAY, APRIL 23RD.

Clinics.

Drs. Jobse and Witte, General Surgery, St. Mary's Hospital. 9-12.

Dr. G. V. I. Brown, Oral Surgery, Children's Hospital. 9-12.

Dr. C. A. Evans, General Surgery, Children's Hospital. 2-4.

Dr. Harry Greenburg, General Surgery, Mt. Siani Hospital. 9-12.

Dr. A. H. Levings, General Surgery, St. Joseph's Hospital. 8:30-12.

Dr. H. A. Sifton, General Surgery, Milwaukee Hospital. 9-12.

Dr. Chas. H. Lemon, General Surgery, Trinity Hospital. 9-12.

Dr. H. M. Brown, General Surgery, Lakeside Hospital. 9-12.

Dr. A. J. Puls, Gynecology, Lakeside Hospital. 2-4.

Dr. Daniel Hopkinson, The Wassermann Reaction, Trinity Hospital. 9-12.

EVENING SESSION.

8:15 P. M. Red Room, Hotel Pfister.

1. The Early Diagnosis of Duodenal and Gastric Ulcer. Dr. Louis F. Jermain.

2. The Chronic Abdomen, Dr. Gregory Connell.

3. Surgical Aspect of Lesions of the Upper Abdomen Causing Peritonitis, Dr. W. E. Fairfield.

General Discussion participated in by Drs. Otho Fiedler, W. Weber Kelly and V. F. Marshall.

FRIDAY, APRIL 24TH.

Clinics.

Dr. G. V. I. Brown, Oral Surgery, St. Mary's Hospital. 10-12.

Dr. J. L. Yates, General Surgery, County Hospital. 9-12.

Dr. F. J. Gaenslen, Orthopedic Surgery, Children's Hospital. 9-12.

Dr. S. H. Wetzler and Dr. Edward Quick, General Surgery and Gynecology, Mt. Sinai Hospital. 9-1.

Dr. Chester M. Echols, Gynecology, St. Joseph's Hospital. 9-12.

Dr. H. Reineking, General Surgery, Milwaukee Hospital. 9-12.

Dr. H. M. Brown, General Surgery, Milwaukee Hospital. 2-4.

Dr. L. C. Tisdale, General Surgery, Trinity Hospital. 9-12.

Dr. B. H. Oberembt, General Surgery, Trinity Hospital. 2-4.

Dr. A. G. Jenner, Genito-Urinary, Lakeside Hospital. 9-12.

Dr. A. H. Levings, General Surgery, St. Joseph's Hospital. 2-4.

Location of Hospitals.

Children's Hospital, 219 Tenth Street.

County Hospital, Wauwatosa.

Lakeside Hospital, 410 Prospect Ave.

Milwaukee Hospital, 2200 Cedar St.

Mount Sinai Hospital, Fourth and Walnut Sts.

St. Joseph's Hospital, 639 Fourth St.

St. Mary's Hospital, 448 Lake Drive.

Trinity Hospital, 200 Ninth Street.

Daily Bulletins at the Hotel Pfister.

For Thursday and Friday Clinics it will be necessary to secure Admission Cards from the Secretary's Office at the Hotel Pfister.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

Officers 1913-1914

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C. A. EVANS, Milwaukee
1st Vice President

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9th Dist., T. H. Hay - Stevens Point
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TERM EXPIRES 1918
3rd Dist., F. T. Nye - Beloit
4th Dist., W. Cunningham - Platteville

TERM EXPIRES 1914
7th Dist., Edward Evans, - La Crosse
8th Dist., T. J. Redelings, - Marinette

TERM EXPIRES 1916
11th Dist., J. M. Dodd - Ashland
12th Dist., H. E. Dearholt - Milwaukee

Delegates to American Medical Association

L. ROCK SLEYSER, Waupun

J. J. McGOVERN, Milwaukee

J. M. DODD, Ashland

W. T. MURPHY, Waukesha

Alternates
F. T. NYE, Beloit

J. F. PEMBER, Janesville

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Committee on Arrangements

C. A. EVANS, Milwaukee, Chairman

NEXT ANNUAL SESSION, OSHKOSH, OCT. 7-9, 1914.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

County.	President.	Secretary.
Ashland-Bayfield-Iron	W. T. Rinehart, Ashland	George Harrison, Ashland
Barron-Polk-Washburn-Sawyer-Burnett	B. N. Webster, Rice Lake	E. R. Ilering, Shell Lake.
Brown-Kewaunee	W. Weber Kelly, Green Bay	F. L. Crikclair, Green Bay.
Calumet	E. L. Bolton, Chilton	F. P. Knauf, Kiel.
Chippewa	C. A. Hayes, Chippewa Falls.	A. L. Beier, Chippewa Falls.
Clark	H. H. Christoffersou, Colby	E. L. Brabbury, Nellisville.
Columbia	B. F. Bellack, Columbus	A. T. Schmeling, Columbus.
Crawford	C. B. Lumsford, Gays Mills	A. J. McDowell, Soldiers Grove.
Dane	T. W. Torney, Madison	F. S. Meade, Madison.
Dodge	H. B. Scars, Beaver Dam	E. S. Elliott, Fox Lake.
Door		N. Z. Wagener, Sturgeon Bay.
Douglas	C. M. Gould, Superior	W. H. Schnell, Superior.
Duun-Pepin	L. A. Larson, Colfax	L. A. Dahl, Menomonie.
Eau Claire	F. S. Cook, Eau Claire	R. E. Mitchell, Eau Claire.
Fond du Lac	D. J. Twohig, Fond du Lac	H. C. Werner, Fond du Lac.
Graut	S. W. Doolittle, Lancaster	M. B. Glasier, Bloomington.
Green	L. A. Moore, Monroe	S. R. Moyer, Monroe.
Green Lake-Washara-Adams	G. E. Baldwin, Green Lake	J. F. RJordan, Berlin.
Iowa	J. P. Parmley, Mineral Point	H. D. Ludden, Mineral Point.
Jefferson	C. S. Carmichael, Sullivan	C. R. Feld, Watertown.
Juneau	W. B. Parke, Camp Douglas	A. T. Gregory, Elroy.
Kenosha	C. H. Gephart, Kenosha	A. J. Randall, Kenosha.
La Crosse	H. E. Wolf, La Crosse	J. M. Furstmann, La Crosse.
Lafayette	J. C. Hubenthal, Belmont	Susanne Orton, Darlington.
Langlade	F. V. Watson, Antigo	J. C. Wright, Antigo.
Lincoln	C. C. Walsh, Merrill	Herbert Saylor, Merrill.
Manitowoc	W. G. Kemper, Manitowoc	W. E. Donohue, Manitowoc.
Marathon	Joseph F. Smith, Wausau	R. W. Jones, Wausau.
Marquette-Florence	H. F. Schroeder, Marquette	M. D. Bird, Marquette.
Milwaukee-Ozaukee	C. H. Lemon, Milwaukee	Daniel Hopkinson, Milwaukee.
Monroe	L. G. Shenrich, Tomah	Spencer D. Beebe, Sparta.
Oconto	J. B. Atwood, Oconto	R. C. Faulds, Abrams.
Oneida-Forest-Vilas	J. T. Elliott, Rhinelander	C. A. Richards, Rhinelander.
Outagamie	L. R. Scott, Appleton	F. P. Dohearty, Appleton.
Pierce	D. C. Munger, Ellsworth	R. U. Cairns, River Falls.
Portage	A. E. MacMillan, Stevens Point	W. F. Cowan, Stevens Point.
Price-Taylor	E. E. Fenelon, Phillips	G. H. McClure, Westboro.
Racine	Emil Tompach, Racine	Susan Jones, Racine.
Richland	C. F. Dougherty, Richland Center	H. C. McCarthy, Richland Center
Rock	J. W. Keithley, Beloit	F. E. Sutherland, Janesville.
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Sauk	F. D. Hulbert, Reedsburg	Roger Cahoon, Baraboo.
Shawano	J. F. Ragan, Gresham	C. E. Stubenvoll, Shawano.
Sheboygan	J. R. Kingsley, Sheboygan	W. F. Zierath, Sheboygan.
St. Croix	L. A. Campbell, Clear Lake	W. H. Banks, Hudson.
Trempealeau-Jackson-Buttalo	B. P. Rosenberry, Arcadia	G. H. Lawrence, Galesville.
Vernon	John Schee, Westby	F. E. Morley, Viroqua.
Walworth	E. J. Fucik, Williams Bay	Edward Kinne, Elkhorn.
Washington	W. J. Wehlie, West Bend	S. J. Drlessel, Barton.
Waukesha	W. S. Wing, Waukesha	S. R. Ackley, Waukesha.
Waupaca	P. J. Christoffersen, Waupaca	G. T. Dawley, New London.
Winnebago	L. P. Allen, Oshkosh	H. W. Morgenroth, Oshkosh.
Wood	J. A. Jackson, Rudolph	J. B. Vedder, Marshfield.

SOCIETY PROCEEDINGS

EAU CLAIRE COUNTY

The Eau Claire County Medical Society met in the dining room of the Galloway House, Eau Claire, March 30, for its regular monthly meeting and banquet. Dr. Becker of Davenport, Iowa, read a paper on "Nitrous Oxid Anesthesia". During the day Dr. Becker gave a practical demonstration of the latest methods of administering the same. Prof. Frost of the University of Wisconsin gave an illustrated lecture on "A City's Pure Milk Supply". The papers brought out a lively discussion by most of the members present.

KENOSHA COUNTY

The Kenosha County Medical Society held one of the most interesting meetings of the year at the home of Dr. J. J. McShane. Dr. Peter Bassoe of Chicago, a member of the faculty of Rush Medical College was the principal speaker of the evening and he delivered an address on "Infantile Paralysis, Its Cause and Its Treatment". Following the meeting a luncheon was served.

WOOD COUNTY

The quarterly meeting of the Wood County Medical Society was held at Marshfield in the city hall on March 26th. Dr. Mason of Marshfield read a paper on "Some Notes on Diseases Affecting the Lymphatics and the Lymphatic Glands". Dr. H. Wable of Marshfield was elected delegate to the State Medical Society and Dr. J. C. Hayward alternate.

ABSTRACTS

SYPHILITIC PRIMARY AFFECTION OF THE CONJUNCTIVA OF THE UPPER LID. Fischer-Galati, Theo., Bukarest. (*Zeitschrift für Augenheilkunde*, 30, October 1913, p. 326). A man, aged 26, who had an old conjunctivitis with squamous blepharitis, complained of an exacerbation. The left upper lid was slightly edematous and showed at the fornix near the lacrimal gland a greyish white area of the size of the head of a pin, which consisted of fibrinous coating and could be wiped off. 2 days later an ulcer, of about 4 mm., with indurated margins and lardaceous coating had developed at this place. The conjunctiva was yellowish, chemotic, and the preauricular gland swollen, hard, not painful. The patient stated that 4 weeks ago a woman had kissed him on the eye, and also an infection of his fingers by touching her genitals was not excluded. Immediate antihelminthic treatment removed all symptoms, in about 3 weeks.

C. ZIMMERMANN.

CAN IDIOPATHIC DETACHMENT OF THE RETINA BE CAUSED BY PHYSICAL EXERTION? Pfalz, G., Düsseldorf. (*Klinische Monatsblätter für Augenheilkunde* 51, II, December 1913, p. 670), reaches in this critical study of literature the following conclusions: The assumption of an etiological connection between physical exertion and detachment of the retina is neither from clinical nor anatomic-pathological observations proven or even

probable. The extant scientific experiences exclude such a direct, or indirect connection. If a patient becomes aware of a close connection of a detachment of the retina with a physical effort or a strain, the detachment is not recent, but an existing detachment has spread into the visual field. This is not due to an exertion, but to the movements of the body, head, and eye. It does not depend upon the intensity of an exertion. As these movements are inseparable from physical activity in general, one cannot speak of an accident. The encroaching of the detachment on the visual field is not an aggravation, but the inevitable consequence of a detachment of the retina.

C. ZIMMERMANN.

SIX CASES OF COMPLICATED HEREDITARY FAMILY ATROPHY OF THE OPTIC NERVE IN YOUTHFUL AGE (BEHR). Takashima, S., Saga, Japan. (From the eyeclinic of Prof. L. Heine in the University of Kiel. *Klinische Monatsblätter für Augenheilkunde* 51, II, Dec. 1913, p. 714). reports 6 cases which showed the clinical picture, described by Behr, (*Klinische Monatsblätter für Augenheilkunde* 1909), under the term "complicated hereditary family atrophy of the optic nerve in youthful age." It consists in bilateral, chiefly temporal, atrophy, respectively neuritis, of the optic nerve, central scotomas, bilaterally almost equal visual disturbances, spasms and increased reflexes of the limbs without paresis, slight ataxia, uncertain gait, weakness of the bladder and slight mental inferiority. T's patients were from 6 to 17 years old, mentally and physically not sufficiently developed, some had a small head, others oxycephalus, others headaches, nystagmus, strabismus, contraction of the visual field, central and paracentral scotomas, adherent lobules of the ear, cryptorchidism, enuresis nocturna. All symptoms remained stationary and are probably due to an unknown disease during fetal, or early infantile, life.

C. ZIMMERMANN.

TO THE DEVELOPMENT OF THE VISUAL SPHERE. Lenz, G., Breslau. (Transactions of the 39th Congress of the Ophthalmological Society. Heidelberg, 1913), raised newborn dogs and rabbits in cages, which admitted only red or blue light. 2 rabbits exposed exclusively to blue light were kept alive for 1 year and 1 month, then killed and their brains fixated in 96% alcohol. L. found a very striking rarefaction of the ganglion cells in the lamina pyramidalis. The certain and important result of his experiments lies in the exact proof, that it is possible to produce by relatively slight alteration of the optical excitations actual changes in the visual sphere and that a way is opened of approaching the problem of inner organization of the visual center by modification of the excitations and later comparison of the histological conditions.

C. ZIMMERMANN.

PAPILLITIS AS EARLY SYMPTOM OF CONGENITAL LUES. Mohr, M., and Beck, S. C., (*Zeitschrift für Augenheilkunde* 30, Dec. 1913, p. 495), examined 128 syphilitic infants. Out of these 62 had papillitis, 19 were doubt-

ful, and 47 had normal disc. 86 were from 1 week to 3 months old and out of them 49 (i. e. 58%) had papillitis, out of 19, from 4 weeks to 6 months old, 6 (i. e. 31%) had papillitis, and out of 21, from 7 to 18 months old, 7 (i. e. 33%), had papillitis. The eyes of the syphilitic infants usually presented the following conditions: both pupils smaller than medium sized, reaction prompt, media transparent, discs swollen from 2 to 4 to 6 D., borders indistinct, of grey or bluish grey color, which extended into the retina for $\frac{1}{2}$ disc diameter. Sometimes there were hemorrhages in form of streaks. During recovery exudation subsides, the swelling diminishes, the borders become sharp and the disc gradually reassumes its pale pink color. A transition into atrophy was observed in a child, aged 5 weeks. In older children, from 7 months to 1 year old, the papillitis subsided in 3 or 4 weeks, in infants of a few weeks after months, under the same treatment, e. g. salvarsan.

Thus the authors confirmed the experiences of Japha and Heine, that papillitis is a valuable early symptom of congenital lues. In some cases the diagnosis of lues was made from the ophthalmoscopic examination, which later on was corroborated by Wassermann's reaction. Papillitis is the symptom which remains longest, after all other signs, especially of the skin, have disappeared.

C. ZIMMERMANN.

THE GENESIS OF MYOPIA, WITH DEMONSTRATION OF MONKEYS WHICH HAD BEEN MADE MYOPIC. Levinsohn, G., Berlin, (Transactions of the 39th Congress of the Ophthalmological Society, Heidelberg, 1913), reports his experiments for supporting his view that the chief cause of myopia is gravitation, acting on the eye while the head is in a stooping position. Young dogs, cats, and rabbits were put into bags and hung up with their heads down. In 12 animals the refraction rose within from 8 to 90 days to 4.5 D. In another series of experiments, monkeys were enclosed in closely-fitting boxes, in such a way, that the head had to remain in a stooping position, while the attention of the monkeys was drawn to carrots lying on a table at a distance of 14 cm. The animals remained 9 hours per day in the boxes. Every week their refraction was sciascopically measured under homatropin. Thus L. created in 6 months an increase of refraction of from 5 to 13 D. Ophthalmoscopically a small crescent at the inferior temporal margin of the disc was observed.

C. ZIMMERMANN.

TO THE QUESTION OF THE DIAGNOSTIC UTILIZATION OF UNILATERAL CHOKED DISC AND UNILATERAL EXOPHTHALMUS IN TUMOR OF THE BRAIN. Mohr, Th., (From the eyeclinic of Prof W. Uhthoff in the University of Breslau. Klin. Mon. für Aug., 50, 11, October, 1912, p. 401), studied this question from the whole literature on tumors of the brain, comprising several thousand publications. Very important was, that this material contained about 800 cases of brain tumor with autopsies. Only cases were considered in which the clinical localization was beyond doubt or verified through operation or postmortem examination. M. emphasizes that the intracranial

pressure in one hemisphere may differ from that in the other. It is by no means rare to find at the autopsy one hemisphere very tense and its bloodvessels choked, the other not. Muck observed that the impeded outflow in one jugular vein causes, not a general intracranial, but only a partial, congestion of the corresponding hemisphere. In contrast to Horsley who found in 95% the symptoms of the fundus more pronounced on the side of the tumor. M.'s material from the whole literature does not warrant this, as illustrated by his cases, arranged in tabular form. The merely unilateral choked disc was relatively rare, only in 41 cases, and in 56% of these on the side of the tumor. In cases of homolateral seat the tumors occupied the convexity or were such in which an effect chiefly on the anterior portions of one side of the brain was conceivable, while in the contralateral cases the cerebellar tumors were more conspicuous. M. says that theoretically in one sided processes in the optic nerve the decrement of the cerebellar and posterior affections seems plausible, as pressure on the 4th ventricle and aqueduct will act on both sides, whereas in compression of one lateral ventricle unilateral lesions of the optic nerve are to be expected. In bilateral affections, the more marked was on the side of the tumor (70.8%). The rare cases of unilateral optic neuritis showed 80% on the side of the tumor, which was more frequent in the posterior parts of the brain. Retinal affections (hemorrhages, etc.), alone did not allow of definite conclusions as to the side of the seat of the tumor. In 10 cases of choked disc of one eye and atrophy of the optic nerve of the other, the atrophy was always on the side of the tumor. Unilateral exophthalmus, without involvement of the orbit, was in all 11 cases on the side of the tumor, and in 4 cases of bilateral exophthalmus more intense on that side.

C. ZIMMERMANN.

NEW INVESTIGATIONS TO THE COMPARATIVE PHYSIOLOGY OF THE VISUAL SENSE. von Hess, C., München. (Zoo logische Jahrbücher, 33, Heft 3, p. 387.) In the first essay on investigations as to the so-called nuptial attire of fresh water fish, v. H. describes his accurate and very simple methods by which he investigated in which colors, or shades, different colored fishes can be seen by a human eye with normal color sense at different depths below the level of lakes. He found that the colors of different fishes, interpreted as nuptial garment, i. e., as ornament of the male in the eyes of the female, cannot be perceived as colors even by a human eye with normal color sense under biological conditions, under which they are supposed to take place. Thus e. g. the "wedding dress" of the Koenigsee-Saibling, represented by an especially intense red color of the belly, can not be an ornamental color destined for attracting the female, because these fishes spawn at a depth of 60 meters, and red and yellow colors at the lower side of the fishes cannot be perceived as colors at from 8 to 10 meters below the surface of the water. Hence one is not justified to simply explain the colors occurring in other fishes as ornamental colors.

In the 2nd essay on an asserted proof of color sense in the Ellritze (crenilabrus and proximus, H. shows by

new experiments that all assertions of von Frisch on the color adaptation of these fishes are not true. The color of the ground has no influence on the color of the fish and its light adaptation to the light sense of the ground is so insufficient, that it cannot be utilized to scientific investigations on the light sense or color sense. von Frisch's statements as to the behavior of phoxinus to colored or colorless baits are all incorrect.

v. H.'s observations on young eels revealed that they are chiefly guided by the sense of smell in the pursuit of their food, thus differing from other fresh water fish. They are decidedly, but not very intensely lampotropic, i. e., positive phototropic. In ultraviolet light the young, not the adult, eels show vivid fluorescence on a large surface of their body.

For his "researches on the light sense of larvae of *Culex nemorosus*," v. H. devised and ascribes new methods. They allow of gaining without special instruments and without special knowledge of the doctrine of colors, a conception of the fine and remarkable reactions to light, which give us such valuable information on the light sense of the lower insects. The observations with these new methods correspond in all points with H.'s former findings obtained by other methods. The larvae of *Culex* always behaved as they must, if their visual qualities are similar or equal to those of the totally color blind man.

These animals show 2 distinct reactions to light by fleeing downwards on shading, but also, after they fled downwards, upon illumination away from the light. These experiments plainly repudiate the tropism hypothesis of Loeb.

In the last essay H. reports his observations on the light sense of coelenterata. Of those examined *Ceranthus* and *Bunodes gemmaceus* showed reactions to light so far unknown, viz. a marked tendency to turn towards the light.

C. ZIMMERMANN.

BILATERAL MACULAR AFFECTIIONS AFTER SHORT CIRCUIT. Knapp, Paul, Basel. (*Zeit. für Aug.*, 29, May, 1913, p. 440.) In most cases of glaring by short circuit the clinical picture consists in electric ophthalmia, so that not always visual disturbances can be detected. But also deterioration of sight, nebular vision and scotoma were observed which generally disappeared after a few days. So far only one case of marked chorioretinitis from the effect of electric light has been published by Uthhoff. K. reports another case. A foreman in an aluminum factory was exposed to a short circuit of at least 150,000 candle power at a distance of about 50 cm. He perceived no electric shock, but his hair and lashes were singed. He was completely glared for a while and after the gradual return of vision he noticed a yellowish semi-oval spot whose margins glittered in rainbow colors. The next day severe burning and laceration, the well-known electric ophthalmia, set in and lasted for 2 days. Then he resumed his work, but still saw the yellow spots. A week later he complained of metamorphopsia.

C. ZIMMERMANN.

ON DECOMPRESSION OPERATIONS IN DISEASES OF THE OPTIC NERVE. Bednarski, A., Lemburg, (*Archiv für Aug.*, 72, I, p. 84), reports the clinical histories of 6 cases of acquired and congenital hydrocephalus, oxycephalus, brain tumor, with choked disc, atrophy, or amblyopia without ophthalmoscopic changes. In 5 the puncture of the corpus colosum according to Anton-Bramann was performed, in one lumbar puncture. In none was the operation followed by complications, not even rise of temperature. In some an improvement of central vision, in others of the visual field was observed. Two cases showed that the puncture of the corpus colosum may have good results even in advanced optic atrophy, and is to be recommended. The best and lasting results were obtained in acquired hydrocephalus. In congenital hydrocephalus it depends upon the case. In oxycephalus the experiences are too scanty for a definite conclusion. B. found in 30 out of 59 cases of diseases of the optic nerve in children affections of the brain, (encephalitis, meningitis, respectively hydrocephalus), showing that in children cerebral affections are the most important and dominating causes of diseases of the optic nerve.

C. ZIMMERMANN...

ON EPIBULBAR TUBERCULOSIS. Guzmann, Ernst. (From the eyeclinic of Prof. E. Fuchs in the University of Wien. *Zeitschrift für Augenheilkunde*, 29, January, 1913, p. 34.) Tuberculosis of the conjunctiva occurs most frequently on the lids, and only exceptionally originates in the bulbar conjunctiva. So far not quite 20 cases have been described. In G.'s case, a woman, aged 42, a pale reddish nodule of the size of a pea with superficial ulceration and very slight circumscribed ciliary injection was situated near the limbus on the temporal portion of the sclera in the horizontal meridian. Otherwise the eyes were normal. Eighteen days after admission the patient died. The autopsy revealed acute miliary tuberculosis of the lungs, kidneys, liver, spleen, leptomeningitis, pericarditis and pleurisy, with old calcified nodules in the lungs. The ocular focus occupied the whole thickness of the sclera with ulceration of the superficial layers and the conjunctiva. It contained leucocytes, epitheloid cells, two giant cells and tubercle bacilli. Its origin was undoubtedly endogenous, as the patient did not expectorate, nor had other tuberculous products which could have been ectogeneously transmitted to the eye. The probability of endogenous infection becomes greater the nearer the infiltration is to the limbus and the marginal loops.

C. ZIMMERMANN.

When he came to K., 6 weeks after the accident, K. found V $\frac{1}{2}$, Jaeger 2 laboriously, marked metamorphopsia. Below the macula was a semi-oval chorioretinitic focus, $\frac{3}{4}$ disc diameters wide, which in every respect was identical in each eye, of dirty yellow ground with 3 larger pigment accumulations and numerous smaller ones, between which lay whitish and yellowish dots. There was only a slight scotoma of indistinctness for white and colors directly above the point of fixation. The treatment consisted in subconjunctival injections of a solution of salt 4% and iodide of sodium 2%; complete cure with V=1, and disappearance of the scotoma. Very

interesting was that the shape of the flame was directly photographed on the fundus. The lower half of it was covered by a rail, so that its upper segment was visible. hence the semi-oval focus. The exposure lasted only for a fraction of a second, so that the eyes had no time to escape and a regular instantaneous photograph resulted. K. ascribes the lesion more to the luminous than the ultraviolet rays, as we know that the ultraviolet rays injure more the inner retinal layers, the luminous chiefly the choroid, pigment epithelium and exterior layers of the retina. The metamorphopsia probably was caused by more intense inflammatory processes in the injured parts.

C. ZIMMERMANN.

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1913, and in addition, to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Agglutinating Sera for Diagnostic Purposes.—These are the sera of animals (horses) immunized against various bacteria. For use a solution is added to a suspension of the bacterium to be tested, and after incubation for a certain period the mixture is examined.

Agglutinating Serum for the Identification of Bacillus Paratyphosus A.—Intended for use by the macroscopic method. H. K. Mulford Co., Philadelphia, Pa.

Agglutinating Serum for the Identification of Bacillus Paratyphosus B.—Intended for use by the macroscopic method. H. K. Mulford Co., Philadelphia, Pa.

Agglutinating Serum for the Identification of Bacillus Typhosus.—Intended for use by the macroscopic method. H. K. Mulford Co., Philadelphia, Pa. (Jour. A. M. A., Nov. 1, 1913, p. 1630.)

Antistreptococcic Vaccine (Scarlatina Prophylactic).—For description of Streptococcus Vaccine see N. N. R., 1913, p. 226. The Abbott Alkaloidal Co., Chicago.

Strepto-Bacterin (Scarlatina Bacterin) Polyvalent.—For description of Streptococcus Vaccine see N. N. R., 1913, p. 226. The Abbott Alkaloidal Co., Chicago, Ill. (Jour. A. M. A., Nov. 15, 1913, p. 1811.)

Silk Peptone "Hoechst."—Peptone made from silk and standardized to a uniform rotatory power. It is used for the detection of peptolytic ferments, either by changes in optical activity or by the precipitation of tyrosin produced by its digestion. Farbwerke-Hoechst Co., New York. (Jour. A. M. A., Nov. 15, 1913, p. 1811.)

Aene Bacterin Polyvalent.—For description of Aene Vaccine see N. N. R., 1913, p. 221. Abbott Alkaloidal Co., Chicago.

Coli-Bacterin Polyvalent.—For description of Bacillus Coli Vaccine see N. N. R., 1913, p. 221. Abbott Alkaloidal Co., Chicago.

Friedlander Bacterin Polyvalent.—For description of Friedlaender Vaccine see N. N. R., 1913, p. 222. Abbott Alkaloidal Co., Chicago.

Gonococcus-Bacterin Polyvalent.—For description of Gonococcus Vaccine see N. N. R., 1913, p. 223. Abbott Alkaloidal Co., Chicago.

Pneumo-Bacterin Polyvalent.—For description of Pneumococcus Vaccine see N. N. R., 1913, p. 224. Abbott Alkaloidal Co., Chicago.

Staphylo-Aene-Bacterin Polyvalent.—For description of mixed vaccines see N. N. R., 1913, p. 224. Abbott Alkaloidal Co., Chicago.

Staphylo-Albus-Bacterin Polyvalent.—Abbott Alkaloidal Co., Chicago.

Staphylo-Aureus-Bacterin Polyvalent.—Abbott Alkaloidal Co., Chicago.

Staphylo-Bacterins (Human) Albus-Aureus-Citrens.—For description of Staphylococcus Vaccines see N. N. R., 1913, p. 225. Abbott Alkaloidal Co., Chicago.

Strepto-Bacterin (Scarlatina Bacterin) Polyvalent.—Abbott Alkaloidal Co., Chicago.

Antistreptococcic Vaccine (Scarlatina Prophylactic).—Abbott Alkaloidal Co., Chicago.

Strepto-Bacterin (Human) Polyvalent.—For description of Streptococcus Vaccines see N. N. R., 1913, p. 226. Abbott Alkaloidal Co., Chicago.

Typho-Bacterin Polyvalent.—Abbott Alkaloidal Co., Chicago.

Typhoid Prophylactic.—For description of Typhoid Vaccine see N. N. R., 1913, p. 227. Abbott Alkaloidal Co., Chicago. (Jour. A. M. A., Nov. 22, 1913, p. 1900.)

Arheol.—Arheol is santalol, the chief constituent of sandalwood. Its action is the same as that of sandalwood oil, but is claimed not to cause disturbance of the stomach or the kidneys. Arheol is marketed only in the form of Arheol Capsules, 0.2 Gm. Alexandre Astier, Paris, France. (Jour. A. M. A., Nov. 22, 1913, p. 1900.)

SCIENTIFIC TRUTH.

"Scientific truth is the remotest of mistresses; she hides in strange places, she is attained by tortuous and laborious roads, but she is always there! Win to her and she will not fail you; she is yours and mankind's for ever. She is reality, the one reality I have found in this strange disorder of existence. She will not sulk with you nor misunderstand you nor cheat you of your reward upon some petty doubt. You cannot change her by advertisement or clamour, nor stifle her in vulgarities. Things grow under your hands when you serve her, things that are permanent as nothing else is permanent in the whole life of man."

H. G. WELLS.

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ORIGINAL ARTICLES

GAS-OXYGEN-NOVOCAIN ANESTHESIA.*

BY W. E. BANNEN, M. D.,
LA CROSSE, WIS.

The difficulty of determining the actual or even approximate results from the use of the various anesthetics used in surgical operations cannot be realized until one spends some time and effort in trying to keep and collect data of these results.

If you go to the various hospitals where general surgery is a daily routine, ask the surgeon in regard to his anesthetics, make inquiries of the anesthesiologists, look for the anesthesiologist's records of results, of the amount required to anesthetize, the time required for anesthesia, the amount used for the operation, the general condition of the patient during the anesthesia, the condition of the patient on leaving the operating table; whether there were any complications before the operation; renal lesions, cardiac lesions, bronchitis, arteriosclerosis, or hypertension; whether there were any complications after the anesthetic, due wholly or in part to the anesthesia, as pneumonia, post-operative albuminuria, persistent vomiting, shock, or retarded convalescence. Consider the answer, and you will come to the conclusion that there is an almost entire absence of complete records of anesthesia in hospitals, and where records are kept they are often so meagre as to be almost worthless.

You will find the other hospital records well kept—histories, treatment and pathology well written—but no notes of the anesthesia.

Watch the administration of the anesthetic, and you will concede that the art of anesthesia has not kept pace with the rest of surgical procedures. Ether is the almost universal anesthetic, and no doubt the most efficient and safe for use under all circumstances. But how often its safety and ease

*Read at the Sixty-seventh Annual Meeting of the State Medical Society of Wisconsin, Milwaukee, Oct. 1, 1913.

of administration are abused by persons wholly unfitted and untrained in giving anesthesia. The patient is quickly ushered into profound anesthesia until every reflex is abolished, and ether is still poured freely over the mask. The patient is often over anesthetized, cyanotic and even in shock. If these observations are true in the larger hospitals, the conditions are even worse in many of the small hospitals where surgery has become so common, where the operator can ill afford a trained staff of assistants and a competent anesthesiologist, and must depend on calling in fellow practitioners who probably never give anesthetics except in emergencies.

The surgeon knows, but, I fear, often does not fully realize, to how great a degree his success depends upon a skillfully administered anesthetic. At least he seems content to use the same anesthesia and the same technique of administration for years without searching for a more satisfactory and perhaps safer anesthetic for general use.

After nitrous-oxide-oxygen anesthesia was employed by Dr. Edmund Andrews in 1868 it fell into disuse, but ten years later was used by Paul Bert. Though used continually in dentistry since that time, it has never been considered satisfactory as a surgical anesthesia until popularized by Dr. Crile in his recent experimental and clinical work on anesthesia.

Other surgeons, following the technic of Dr. Crile, have thoroughly endorsed it, and now nitrous-oxide-oxygen ranks with ether as a surgical anesthetic.

The purpose of this paper is not to add anything new in the technic of giving nitrous-oxide-oxygen and novocain anesthesia. Dr. Bloodgood recently said, the most practical advice he could give as to the administration is to follow Crile's technic in every case.

The purpose is to present a clinical report of the results after using gas, oxygen, and novocain anesthesia in selected cases for over a year in association with Dr. Evans at St. Francis Hospital.

In this series of about two hundred cases the using of nitrous-oxide-anesthesia in some form for major operations, has been carried on with great satisfaction to the patient and operator. At first it caused considerable apprehension on the part of the anesthetist, for the nitrous-oxide anesthesia is much more difficult to administer, more dangerous in incompetent hands, and, requiring constant vigilance, keeps the anesthetist under a tension that is fatiguing. The use of the nitrous-oxide-oxygen anesthesia with blocking the field of the operation with novocain and with quinine and urea hydrochloride, requires a special effort on the part of the surgeon and his assistants to handle all tissues with greater respect and more gentleness, thus securing a relaxation that is impossible under rough manipulation.

After the operator has acquired this art of gentle surgery, and the anesthetist has become proficient and competent, and a sympathetic bond has been established between the operator and the anesthetist, this is a very satisfactory anesthesia for nearly all classes of major operations. Nitrous-oxide anesthesia has certain limitations, the greatest difficulty being encountered in getting sufficient relaxation, especially for operations in the lithotomy position.

The series of two hundred cases comprises laparotomies for appendicitis, hernia, cholelithiasis, hysterectomy, removal of ovarian cyst, perforated gastric and duodenal ulcer, obstruction of bowel, gastro-enterostomy and gastrectomy and ruptured ectopic pregnancy.

There were eleven cases where nitrous-oxide-oxygen was given without novocain. All were pelvic abscesses drained from below. These were very satisfactory, though, of course, in lithotomy position.

Twenty-six cases were given the nitrous-oxide-oxygen-novocain anesthesia, with additional ether given through the gas machine, and varying in quantity from a few drops to two ounces. This was given for greater relaxation in difficult cases, one, a pelvic peritonitis, in which two and one-half ounces of ether was used.

ILLUSTRATIVE CASE HISTORY. NO. 2455.

Miss F., age 19 yrs. Entered hospital on 3rd day after sudden onset of abdominal pain with vomiting, delirium, temp. 104, pulse 145, abdomen

distended. History of pain and tenderness on right side for several years.

Laparotomy under gas-oxygen-novocain anesthesia—a well developed pelvic peritonitis—with considerable general peritoneal irritation.

Cecum and ileum markedly congested and bound into right side of pelvis by recent adhesion. On examination a mass felt beneath these that proved to be a twisted pedicle ovarian cyst. Ether was given, through the machine, to give better relaxation. Operation 35 minutes, ether given 2½ oz. Patient returned to room fully awake. Did not vomit. Complained of dull pain. Fifteen hours later flatus expelled. Vomited 8 oz. on 3rd day. Recovered.

Fourteen cases were children under ten years of age, all of whom took the anesthetic very nicely and in small amounts. The gastric ulcer patients were very anemic, as was also an ectopic pregnancy. These stood the anesthetic without shock, which could scarcely be the case with ether, we thought. Anemic patients take the nitrous-oxide anesthesia well, are easily relaxed; but the anesthetic is given with caution; the color cannot be taken as an index of anesthesia, and the anesthetist must depend almost entirely upon the character of the respiration and pulse. Dr. J. Clarence Webster recently stated "I used nitrous-oxide in cases of low hemoglobin and in cases desperately ill, being afraid to use ether."

In strangulated hernia with toxemia and in general peritonitis cases, the patients have done so well, that, while it is impossible to make comparisons in concrete cases, it would seem that the recovery of these almost hopeless cases was due to the lessened shock from the non-toxic nitrous-oxide anesthesia.

ILLUSTRATIVE CASE HISTORY. NO. 2414.

Jos. H., patient brought to hospital in very toxic condition, five days after an attack of abdominal pain, with history like obstruction of the bowels. Laparotomy, median incision, with practically complete evisceration to find obstruction at ileum caused by an acute gangrenous appendicitis. Enterotomy with milking contents from distended bowel and closure of bowel with thorough washing of same. The foul smelling fluid which was generally distributed throughout abdomen washed out with great quantity of salt solution. Patient was fully relaxed with gas-oxygen-novocain anesthe-

sia; was returned to room drowsy but awake. Pulse during operation dropped to 72 but returned to 92 in room. No vomiting until 3rd day, 350 c.c. Patient made slow recovery. Left hospital on 24th day.

In the series I am reporting, about twenty-five per cent. had post-operative vomiting. In our ether anesthetics and in data from other clinics, from forty to sixty per cent. have post-operative nausea and vomiting after laparotomies. Part of this vomiting in our cases was, we feel, due to the morphia used with atropine or scopolamin, for we have continued to use a preliminary dose of morphia. With nitrous-oxide anesthesia we have had no ease of vomiting that exceeded two to four hours where peritonitis was not present.

We have not been able to get away from the post-operative pain by blocking the line of incision of the layers and peritoneum and the region of operation with quinine and urea hydrochloride, the Anoci-Association of Crile. Though the post-operative pain has been much less in these cases, we have been unable to get the results published by Crile, and are inclined to think that his splendid success is due to a more perfected technique and the dominant individuality of the surgeon.

We have had two cases of pneumonia develop after using nitrous-oxide anesthesia; one, a case of gangrenous appendicitis with a general peritonitis, the other case developed on the fifth day following the anesthetic, in a case of pelvic peritonitis with a cyst with a twisted pedicle. These cases developed at a time of an epidemic of so-called "La Grippe" prevailed.

In both these cases the nitrous oxide from one small cylinder was used. This gas, however, irritated the patients and seemed impure. The anesthesiologist commented on it while giving the anesthesia, so that we were inclined to think the pneumonia a sequel to irritation set up by impure gas, although the exact etiology could not be ascertained. Both cases recovered, but were desperately ill.

There has been no trouble in healing after the local infiltration of the skin or the peritoneum, and healing has been just as satisfactory as without infiltration under ether anesthesia.

A case of novocain necrosis reported in the *British Medical Journal*, July 26, 1913, stated that the novocain solution was a stock solution, prepared, boiled and left standing, and re-boiled be-

fore using for alveolar infiltration several days later. The necrosis was attributed to toxins from bacteria grown in the solution between the sterilizations. The moral would be, "Use freshly prepared novocain solution."

When using gas-oxygen-novocain the patients were always fully awake when leaving the operating room, and generally were talking while the surgeons were closing the fascia and skin. They had no unpleasant recollections of the operation and frequently were able to help move themselves from the table to the cart when leaving the operating room. Several patients have offered to walk to their rooms after appendectomy.

The time to anesthetize the patient is much shorter than with ether. There is no stage of fear or excitation. If given slowly and with oxygen, it is not unpleasant to take, the patient dropping into a quiet sleep.

The anesthesiologist who had given many ether anesthetics very satisfactorily, after giving the nitrous-oxide anesthesia with a few drops of ether, began to notice that for ether anesthesia, she used much less ether than was required formerly for operations, until now we are operating with less than fifty per cent. the amount of ether used previously.

The idea in anesthesia has been to give as little anesthetic as possible to get a state of unconsciousness with no inhibition of vital reflex and as slight damage to cellular vitality as possible. Dr. Crile has shown by laboratory anesthesia, that less toxic degeneration occurs in cerebral cells with nitrous-oxide anesthesia with blocking the field of operation, than with ether anesthesia; in other words, less shock.

In using nitrous-oxide-oxygen, the slow induction of anesthesia with oxygen varying from seven to twelve per cent., requires from two to five minutes. With oxygen at eleven per cent. there is no lividity or cyanosis. The personality and skill of the anesthesiologist counts for much in the quantity of anesthetic used and the quality of anesthesia produced.

I can illustrate this personal equation of the anesthesiologist by quoting from Dr. Finney's records a case anesthetized six times in 2½ years, by six different anesthesiologists, all for similar operations lasting one and one-half hours and requiring the following: Time to anesthetize, from twelve minutes to twenty-five minutes. Amount of ether to produce surgical anesthesia, from three ounces to

sixteen ounces. The total amount used varied from nine ounces to thirty-three and one-third ounces. In each of these cases he considered the anesthetist the most important factor in difference of time and amounts used.

A few words in regard to preliminary administering of morphine and atropine, which we have continued to use before practically all abdominal operations: In nervous patients, before all anesthetics, it is advisable to give morphine but in small doses, usually, not exceeding 1/6 grain. Atropine is hardly necessary and does little, if any, good, and perhaps does harm by limiting the secretions and allowing ether vapor to come in contact with the epithelial cells of the respiratory tract, irritating them and causing more damage by predisposing to pneumonia.

We have given quite a number without any preliminary hypodermic, many without atropine, to see if results were not as satisfactory. In giving light ether anesthesia, there can be no fear from the respiratory inhibition of morphine, and in nitrous-oxide anesthesia the preliminary hypodermic of morphine and scopolamine seems a decided benefit. The only valid objection to morphine is the possibility of respiratory failure or paralysis under ether, which, with a depressing drug inhibiting respiration, makes recovery by artificial respiration much more difficult and hard to maintain.

SUMMARY.

I believe the following conclusions are justified:

1. That anesthesia as generally administered has not been accorded sufficient care, and is too often grossly abused, by incompetent anesthetists.
2. That records of anesthesia and its results are poorly and unscientifically kept.
3. That gas, oxygen and novocain anesthesia in the hands of experienced and competent anesthetists and with a skilled operator, is a safe and satisfactory anesthetic for most cases of major operations.
4. That the successful use of nitrous-oxide-oxygen and novocain requires, on the part of the surgeon, greater skill in operating and more careful manipulation of the tissues, a definite knowledge of the nerve supply to the region to be blocked with the novocain, and co-operation between the anesthetist and the operator.
5. That the preliminary use of small doses of morphine in anesthesia is of more benefit than

harm, though sometimes producing post-operative emesis.

6. Much lighter ether anesthesia than is generally given is sufficient for most surgical proceedings.

DISCUSSION.

DR. J. L. YATES, Milwaukee: The fundamental questions that arise whenever the subject of anesthesia is discussed are unfortunately little capable of satisfactory solution at present. This is because of our limited exact knowledge as to the biological effects of anesthetics, immediate and remote, upon the organism as a whole. All that Dr. Bannen has said about the incompleteness of anesthetic statistics is true and no doubt if abundant accurate data were available much of value might be deduced. Even with a surfeit of such information it would be difficult to interpret just what proportion of any surgical result was to be assigned to the credit or discredit of the anesthetic or anesthetist and how much was attributable to the mental and physical condition of the patient and the nature of the operation.

Having attempted to study experimentally (*Wis. Med. Journal*, II, 1912) the effects of certain narcotics upon animals which were so far as possible maintained in similar conditions and not subjected to any operative procedures there developed certain facts which are of direct bearing in this connection. The drugs employed were morphine, morphine and hyoscine, nitrous oxide and oxygen, ether, chloroform and cobra venom. When these narcotics were given to rabbits, either singly or in combination, and in amounts sufficient to produce physiological results, the effects upon heart muscle, liver and kidney epithelium so far as recognizable microscopically were those of similarly acting cell toxins. Any one of these was apparently potentially capable of inducing permanent parenchymatous changes or of aggravating such degenerative processes if already present. The resultant metamorphoses were so marked and diffuse as conceivably to become the starting points of progressively developing organic physiological insufficiency.

These observations forced the conclusion that there was no such thing as a safe anesthetic and with it the realization that so long as poisons have to be given the least amount of the least noxious should be administered in the least harmful manner. In other words, selected anesthetics invariably administered by an expert.

Selection of the least dangerous anesthetic must be based upon the mental and physical condition of the patient, the nature of the operation and the experience of the anesthetist. We feel amply prepared to contest any supposition that there is an entirely satisfactory routine anesthetic. Experimental animals have quite as wide individual variations as have human beings. Our observations upon them have found such abundant confirmation in clinical experience that this has led to boldness, possibly unwarranted, in applying laboratory observations to human problems. This is justified in that it has served but to attempt to increase the margin

of safety. For example, certain rabbits, which are as a species notoriously difficult to chloroform, took this reprehensible poison better than certain other rabbits accepted gas or ether even though post mortem it appeared that the effects of chloroform upon heart, liver and kidney had been the most deleterious. Also a considerable number of the rabbits obtainable were found post mortem to be suffering from chronic myocarditis. Several such animals died while gas anesthesia was being induced. It is well established, if not widely heralded, that humans suffering from myocarditis are ill-suited to the administration of nitrous oxide alone but when gas is given in conjunction with ether, this danger is to a considerable extent eliminated. This may be due in part to the facts that the addition of a little ether will induce deeper anesthesia with a less rise in blood pressure and that the ether itself has some stimulating effect upon the myocardium.

After five years' experience with nitrous oxide I think that when it is expertly given to properly selected individuals, often with a little ether vapor and always so well admixed with sufficient oxygen as to prevent cyanosis, not according to any percentage but graded to the needs of the individual at hand, it is the least dangerous form of anesthesia. Certainly it is the least unpleasant to take and apparently assures the promptest immediate and most complete remote anesthetic recovery. No anesthetic should be administered by a novice or an incompetent; gas requires the greatest efficiency of administration of any anesthetic save chloroform which should never be given at all.

Reduction in the amount of anesthetic may be obtained in the three ways Dr. Bannen has indicated, viz., preliminary injections of morphine or morphine and atropine or hyoscine, by the use of combined general and local anesthesia and by gentleness on the part of the operator.

Although our experience has not been large our cases have been carefully watched and there has yet to develop an alarming complication let alone a fatality due to the pre-anesthetic administration of narcotics. Not even in individuals whose respiratory mechanism was already recognizably embarrassed by intoxication or in a considerable number of brain cases some with so pronounced edema as to involve the medullary centers. None has been deeply anesthetized and therein lies the danger and the safety of this anesthetic adjunct, with possibilities for good far in excess of those for evil if properly appreciated by a skillful, conscientious anesthetist. The advantages of anoci-association principles so ably championed by Crile and of the gentleness in manipulation which is entailed would be amply justified if accomplishing nothing more than the better healing which is assured thereby.

Too much importance cannot be attached, by anyone accepting surgical responsibilities, to the moral obligation of providing an expert anesthetist well trained in any required form or method of giving anesthesia. One cannot help being impressed with the similarity between an operating room squad and a base-ball team. Both have to work as a unit to be truly efficient and to play inside ball if otherwise overwhelming opposition is to be

successfully overcome. The average spectator attaches too great significance to the pitcher forgetting or not knowing that as a rule the catcher is the great defensive strength. Likewise too little credit is given a skillful anesthetist. Experience has already shown incontrovertibly that a competent nurse, given the individuality and inclination, can become a thoroughly trustworthy anesthetist. In taking this work not as a stepping stone to clinical preferment or as a temporary means to a livelihood or because of a natural inability to do anything else with equal commercial success but rather as a permanent preferred vocation such anesthetists will eventually help to eliminate one of the weakest spots in modern surgery. The one real stumbling block to proficient anesthetists and efficient anesthesia is the necessary expense in time and money. Ether given by an unpaid interne or externe or any other untrained anesthetist is the cheapest and under such conditions the safest anesthetic. Incidentally ether anesthesia in such hands will least often delay the operator, a significant detail when a surgeon's time outvalues the safety and comfort of the patient. There is abundant reason to hope that the time is not far distant when the public will come to demand of surgery in addition to trained brains and clean hands, clean morals and the most modern methods of anesthesia.

The following is a conception of what constitutes anesthetic inside ball for a winning operating team. The team work must include the patient in spite of himself and the game must be played entirely according to his needs, a most important one being the elimination of every possible unpleasant impression before, during and after anesthesia. This would seem as a rule to entail the least possible delay between the time that the individual knows an operation is to be done and its performance. Even when an individual is subject to employment up to the night before an operation a cathartic can be given shortly after noon of that day and the individual given but a cup of tea and perhaps a cracker for supper. This eliminates the one unavoidable reason for a sleepless night. After entering the hospital the patient should early be made comfortable in bed and if sleep does not soon come naturally it should be induced by some quick acting drug. With the possible exception of operations requiring a large field as for example a complete removal of the breast, no local preparation is necessary other than a simple cleansing enema. At the proper time (the earliest possible) a preliminary narcotic is given hypodermically.* A cold cloth is placed

*Our experience seems to indicate that the dangers of morphine have been outrageously exaggerated and that when combined with hyoscine there is apt to ensue a confusion of ideas and an elimination of apprehension which is highly desirable from a humane standpoint as well as leading to a more rapid induction and a smoother course of anesthesia. Combined with atropine these drugs have given no cause for apprehension from their effects upon the cardio-vascular and respiratory mechanisms. Dose for adults in good condition, morphine $\frac{1}{4}$ gr., hyoscine 1-100 gr., atropine 1-120 gr., varied according to individual requirements.

over the forehead and covering the eyes. All external stimuli, light, noise, etc., are excluded so as to encourage the most rapid and profound effect from the medication. The trip to the operating room should be made with the least possible confusion and effort on the part of the patient. He should be lifted, still blindfolded onto a stretcher and again onto the operating table where anesthesia is immediately begun and so far as possible in absolute quiet. Restraints should not be applied or final preparation begun until unconsciousness is established, a matter of less than three minutes as a rule when gas is used. Simple preparation of the field of operation is quite as efficacious as any and being done after consciousness is lost eliminates another impression so unpleasant as amply to justify the very few minutes it extends the period of anesthesia. Those who have been operated on can testify to the extreme distress caused by the sense of utter helplessness which comes with the feeling of being bound to the table and with it a natural response of a rebellious instinct which is not without effect upon going to sleep. Should the operation require a lithotomy position the individual should be placed in that position before the anesthetic is started as it will be found that operations upon the perineum can, if done gently, often be performed under lighter anesthesia than that required to induce sufficient relaxation to permit the mere placing of a patient in this attitude. It is well known that certain steps of any operation are the less painful, some indeed quite painless. Only at such times as pain is inevitable need the anesthesia hold the patient hardly beyond the talking stage and may be deepened or not at the will of the operator if he but give due warning to an anesthetist trained to his methods. The importance of this is too little appreciated, its actual practice too easily overlooked. After operation the great felicity of having a patient regain consciousness upon the table is largely in the imagination of everyone but the patient. Here again a personal experience is most convincing. If one be not profoundly anesthetized and is properly watched wakening in bed in a quiet dark room is quite as safe and is far less disagreeable. Thus another unpleasant mental picture may be obliterated. As this after sleep, often of several hours duration, is almost constantly the result when morphine is given before operation and a little ether is mixed with the gas during operation it is thought to furnish additional arguments in the favor of such procedures. After being returned to bed suitably covered, particularly over the shoulders to prevent chilling, it becomes again essential to exclude light and noises. All possible fresh air should be admitted to the room, even in winter time, for thus alone is possible the most complete immediate recovery from anesthetic.*

*While attempting to chloroform rabbits for a half hour on successive days it was found that the animals did not survive the third administration when kept in an open cage within a foot of an open window, but when immediately after anesthesia they were placed in the open air and remained there except for the period when chloroform was being given, a daily administration could be repeated fourteen times as was desired.

DR. LOEVENHART, Madison: I want to thank Dr. Bannen for bringing the subject of anesthesia before the Society on account of the great importance of the subject, and the general neglect, which he pointed out, that exists, in spite of the large number of administrations of anesthetics all over the country. The subject of anesthesia has made only moderate progress in the last 30 or 40 years. We still employ the same reagents principally that we first employed: ether, chloroform and nitrous oxide. However, we have in the last few years greatly improved the technique of giving the anesthetics, and the subject and choice of anesthetics in a given case has been enlarged. We know a great deal more about the toxic effects of chloroform, and the cases in which chloroform is especially contra-indicated. In this connection it might be just as well to refer to the marked deleterious action of chloroform on the liver, and the especial contra-indication in pregnancy to the use of chloroform. All the recent work has indicated this deleterious action of chloroform on the liver, and in view of the fact that chloroform is used so largely for incipient anesthesia during normal labor, when an operative procedure becomes necessary in the course of labor, the tendency will be to continue the use of chloroform. Modern work however has shown that this would be a most reprehensible thing to do, and that immediately ether should be substituted. Either ether or nitrous oxide should be substituted for chloroform in such a contingency. I was much interested in what Dr. Bannen said about the use of atropin and morphine as preliminary to anesthesia. The use of atropine was originally suggested as preliminary to anesthesia for the purpose of paralyzing the endings of the vagus nerve in the heart. It was shown that reflex stoppage of the heart occurs under chloroform and is due to the reflex stimulation of the vagus center. By giving atropin it is possible to paralyze the endings of the vagus nerve in the heart, and thereby prevent reflex stoppage of the heart. I know of no very good reason for giving atropin in ether or in nitrous oxide anesthesia, except that it is perfectly harmless. I do not believe that 1-100 gr. of atropin or even 1-60 gr. of atropin gives rise to any disagreeable features. Dr. Bannen intimated that the effect of atropin in lessening the bronchial secretion might predispose to pneumonia, but I doubt whether this is a factor, in the dosage mentioned. The use of morphine is certainly, it seems to me, merciful and proper. There is absolutely no possibility of $\frac{1}{8}$ of morphine or even $\frac{1}{4}$ having a deleterious action on the respiratory centers in normal adults. It certainly is very beneficial, and especially in ether, I think, on account of lessening the stage of excitement. I would like to ask Dr. Bannen whether they have ever added epinephrin to their novocain solution. The action of local anesthetics is generally improved by the addition of epinephrin because this substance causes local vasoconstriction, and thereby delays the absorption of the drug; in other words, prolongs the local action of the drug; and incidentally lessens the toxicity of the drug because its absorption is more gradual. I think it has been shown very definitely that the anesthesia lasts

longer and that smaller doses of novocain or other local anesthetics are required when the solution contains a small amount of epinephrin. The ordinary solution of adrenalin on the market is 1 to 1000, and I believe ordinarily about 5 to 10 drops of this is used per hundred cc. of novocain solution. It is quite sufficient.

I want to say just one word, if I might, about a remark Dr. Yates made in his discussion, about the absence of a perfectly safe anesthetic. It is absolutely inconceivable that an anesthetic could be safe, because anesthesia is not sleep. It is in the opposite direction from sleep. It is not a recuperative process, and it depends fundamentally upon the reduction of the oxidations in the central nervous system. Nitrous oxide probably acts by decreasing the oxygen carrying power of the blood, and thereby lessening the oxidative processes in the central nervous system. This offers a very simple explanation of the fact that nitrous oxide is a safer and better anesthetic than chloroform or ether under ordinary conditions. The process is more quickly reversible; because the action is not in the cells; it is in the blood. The oxygen carrying power of the blood is reduced. The fact that the oxidations are reduced indicates that the process is totally different from sleep. We ought not to speak of anesthesia as sleep. There is no recuperation under anesthesia as has been shown by Crile and others. A person anesthetized is on the way to death, and the relative safety of an anesthetic depends on the relative amounts required to produce unconciousness, and the amount required to kill. The margin of safety determines the relative safety of anesthetics, but it is inconceivable that any anesthetic can be absolutely safe.

THE PRESIDENT: We have with us this afternoon, one of our invited guests, Dr. Hitzrot, of New York, and I shall take this opportunity to introduce him to you and ask him to continue this discussion.

DR. HITZROT, New York: I was very much interested in the subject which Dr. Bannen brought out, because it is a subject that has given us lots of trouble in one of the largest hospitals in New York. The discussion came up 5 years ago, and we were all pretty well satisfied with our anesthesia. The usual method of procedure was to take the greenest member of the house staff and give him a can of ether and a gun and show him the patient and let him go at it, with the net result that our post-anesthetic complications grew to be rather alarming. Now we have trained anesthetists and like all general hospitals our routine anesthesia is ether; ether given in conjunction with gas and oxygen. The patient is put under gas and oxygen and then ether is used to carry him through the period of profound narcosis. I must say, however, that having been trained in an institution where local anesthesia was used, that is, under Halsted and Cushing, I have been a great advocate of local infiltration anesthesia. I think it has a wide application. There are certain characters of operations in which I always recommend it. A hernia operation, and that includes the ordinary inguinal hernia, femoral hernias, inter-muscular hernias, especially umbilical her-

nias with large amounts of adherent gut, can be done under local anesthesia without any of the post-operative complications that one finds under a general anesthetic, and done without any pain to the patient whatsoever. Of course that implies the fact that you have got to have a patient understand what you are going to do, and who will tell you when he has any pain. In New York we have a large amount of veterinary surgery. I say that because the individuals do not speak our language and we do not speak theirs, and naturally enough we can in no wise explain to them what we are going to do, and when they see the operating room with individuals all prepared and masks over their faces, nurses, etc., they naturally become frightened, and when the patient loses confidence in the surgeon, local anesthesia becomes a farce. You have got to use a general anesthetic in those cases.

One point the doctor did not bring up, a very important point in the use of local anesthesia, that is by the intravenous route; local anesthesia by the arterial route as recommended by Bradshaw. That implies that anesthesia can be used in the extremities, and the anesthetic novocain is injected into the vein in half per cent. solution. The quantity varies very much with the individual, but up to 1 to 200 novocain solution can be used without trouble; it means a bloodless field. That means we have to get all the blood out of the extremities. You can set a knee joint, amputate a thigh, you can amputate anything on either extremity. You can do orthopraxis on the hand, orthopraxis at the knee joint, right through the patellas, anything you want, without local anesthesia, with absolute painlessness. It takes about 15 minutes to introduce the anesthesia, and it is a method which I think will supersede the other methods, that is the methods of infiltration, in those areas where it is used. With regard to gas anesthesia, it has been our practice in the New York Hospital in our operation department, where we have a large surgical service, to give gas anesthesia in our small infections, not to use the novocain. The anesthetists that we have in one part of the hospital use a very small quantity of ether. They use ether as the routine anesthesia. In a splenectomy a half ounce of ether, gas and oxygen, and a half ounce of ether to complete the operation. We no longer have between 12% and 15% of post-anesthetic complications. I am not in a position to say now, of course, without very carefully studying those statistics, but with a skilled anesthetist using the minimum quantity of ether our results are well below 5% of post-anesthetic complications. With regard to the use of a routine anesthetic, one cannot use a routine anesthetic. You have full-blooded alcoholics who cannot be kept under by a nitrous oxide or oxygen even in the hands of our skilled anesthetists. They have to use ether in those cases to get sufficient relaxation. I personally have not had the experience that is published by Van Brun in the operations on the face. I have attempted it, but probably due to improper technique have not been successful. We had to use a general anesthesia. However, I want to congratulate Dr. Bannen on the fact that he has presented a very interesting subject. Next to the surgeon the anesthetist is the most important per-

son in an operation, where the dangers of the operation are, I think, frequently as much the dangers of a bad anesthesia as they are the dangers of a bad operation.

DR. A. J. PULS, Milwaukee: Mr. President: I think in any treatise on Anesthesia today it is unfair not to mention the name of Bier, who discovered and introduced spinal anesthesia in 1896. That is about 17 years ago. Bier at that time used cocaine which proved too poisonous. It was not until 1904, when Fourneau discovered stovain, which since then has been in general use in some of the clinics as the safest method of procedure for spinal anesthesia. I have had occasion to see stovain anesthesia used intraspinaly in the fall of 1906, and since that time I have used it for pelvic and abdominal operations indiscriminately at first, and of late, not so often, because we have had better results with the ether anesthesia. But as a safe procedure, I do prefer for prolonged abdominal work spinal anesthesia, and always use it for hysteromyomectomies. The method used by Dr. Jonesco, whom I did not have occasion to see, and who introduced it throughout the United States, as I understand, with more or less good results, I do not approve of. He goes so far even as to operate on the upper extremities, which seems to me a rather unsafe procedure, since in inexperienced hands the needle might penetrate the nerve centers. But used as Bier has proposed, I consider spinal analgesia a very safe procedure, especially when we are operating on patients whose organs are already affected; that is the vital organs regulating the vascular system, the heart and kidneys. In such cases we know that ether is unsafe, and chloroform still more so, and will only promote shock.

Now in looking back over the history of anesthesia, with an experience of about 32 years, I never have witnessed a death from an anesthetic, although in some instances the patients were at the verge of it even before I had the chance to use the knife. I have never seen as bad results follow the use of chloroform as of ether, and still we give up chloroform because everybody tells us it is too dangerous. I think chloroform, if used properly by the drop method, is just as safe as ether. Contradictory to Dr. Loevenhart, I surely would advise its use in obstetrics. In obstetrics we want quick results; you cannot get that with ether, you can get it with nitrous oxide, but you cannot have that apparatus with you; it is too heavy to carry. But you may use chloroform safely in confinements. It takes only a few drops if you want to do quick work. If finally it should come to a prolonged operation you can switch off to ether, if you think it to be safer. But even in lengthy obstetric operations, i. e., cesarean section, spinal anesthesia is the method of choice. Another good anesthetic in obstetrics we find in the administration of scopolamin. I have had occasion to use this preparation once, and with very good results, on a patient who had been in labor for 3 days and to whom it was untimely to give ether or chloroform. In slow and painful labor I would advise scopolamin injections.

DR. THIESSHAUS, Milwaukee: The question of Narcosis is of such vital importance and interest to every surgeon, that I may be allowed to make a few remarks. While

in Berlin three months ago I had the opportunity in von Bier's clinic, to see three surgeons in one room operate on three different patients at the same time, each using a different method of narcosis on his patient. One assistant operated on a goitre under local anesthesia, another assistant performed a pylorectomy and partial gastrectomy for cancer of the pylorus under general anesthesia, and von Bier performed a prostatectomy under spinal anesthesia. This shows, that the surgeons in the old country differentiate somewhat and select a method of narcosis in accord with the operation they have to perform, and the status praesens of the patient.

Local anesthesia has, as you know, great advantages in goitre operations, as well for the patient as for the operator, because when the operator advises his patient to speak, while he is operating in the neighborhood of the recurrent nerve, lesion of this nerve can be avoided with certainty and ease.

Speaking from my own experience with anesthetics in thirteen years of surgical years practice in America, I would like to say that although educated in von Bergmann's clinic where chloroform was used exclusively, I discarded it almost immediately at the beginning of 1901, in favor of ether, and since that time I have used ether narcosis exclusively in all my operations up to the present time; and I still today consider it the anesthetic par excellence, for the general practitioner, as the ratio of safety between ether and chloroform is by far in favor of ether. Naturally it is essential that the anesthetizer, who gives ether, must learn how to give it, and understand, to use a common expression, his business.

Three things I have observed, are oftentimes overlooked during the administration of ether in general practice, and I would like to dwell upon these briefly.

First, in case of acute internal hemorrhage, such as you find in ruptured extra-uterine pregnancy, the ether narcosis must never be deep, but the patient ought to be operated upon during the first stage of ether anesthesia, in what is called the stage of excitement. Doing this, in using ether, you add to the narcosis a stimulant for the heart. In such cases, furthermore, the administration of morphine before narcosis is better omitted.

Second: In all other cases (possibly excluding cases of chronic anemia) $\frac{1}{4}$ to $\frac{1}{2}$ grain of morphine with or without atropin ought to be given a quarter to half hour before the ether narcosis begins. This is chiefly necessary in cases where the patient before operation is very nervous and excited. I observed one case in the country on whom I had to operate for radical cure of inguinal hernia, where an anesthetizer overlooked this precaution, and had to engage in a wrestling match with his patient, during the exciting stage of ether anesthesia, for the purpose of subduing him. We had to wait until the patient's excitement had subsided; then morphine was given and the patient again anesthetized; this time the narcosis proceeded calmly.

Third: The mask which is used in ether anesthesia, must be covered with heavy layers of gauze, so that no

ether in substance can drop through the gauze into the nose and throat of the patient. If such an accident happens the patient will begin to cough incessantly and the patient is in great danger of acquiring ether pneumonia. This ether pneumonia is, as we know, not a genuine pneumonia, but an edema of the lungs, develops usually during the first day after the operation and is almost always fatal.

DR. BANNEN, Closing: I had some charts that I hoped to show, showing the changes in the pulse and the blood pressure in ether, and the gas oxygen anesthesia, but unfortunately I was caught in the rain yesterday, and got my cold, and lost my charts.

The discussion of these cases I think, has all tended to show as has been stated, especially by Dr. Yates, that there is not a routine anesthetic; that selected cases are the cases on which the anesthetic of choice is to be used. Gas with novocain raises blood pressure and slows the heart. It would seem to be ill advised to use gas novocain in a case of too high a tension, or in arterial sclerosis, but combining the gas novocain as suggested by Dr. Hitzrot, with the ether, given through the machine, counteracts the raising of the blood pressure and makes a very satisfactory anesthesia. In no case in which we have had and recognized the renal and cardiac lesions, have we had any difficulty or increase in symptoms following the gas novocain. We have not used the adrenalin or epinephrin solution with the novocain. I know of no reason why we should not unless possibly with the gas novocain anesthesia and the infiltration we get a little edema about the scar, and more oozing than without it. Perhaps it would check that. I don't know whether we would have more tendency to bleeding afterward or not. We have used the novocain in from 1 to 400 to $1\frac{1}{2}\%$ for injection. We have used an infiltration of the peritoneum, also for instance, of the stump of the appendix, an injection or an infiltration, and in the skin at the time of closing, of the quinine and urea, which has left a comparative absence of pain for several hours. Records or statistics which have been kept, apparently show nitrous oxide to be the safest anesthesia; the largest number given without deaths. There are two reasons for this: one, that it is a very short anesthetic, and the other, that nitrous oxide is seldom given by the novice. That is, where nitrous oxide anesthesia is administered in a majority of cases, there is a trained anesthetist, while ether is given so frequently by people who know absolutely nothing of the administration of the anesthetic, nor the danger signals that the patients give when they are getting too much. In this paper, after going over records and searching for it, it seemed that if I could make a plea for better anesthesia, for getting trained anesthetists, I would have attained my object. As Dr. Hitzrot says, next to the surgeon the anesthetist is the most important. If we could get each surgeon to insist upon better records of his anesthesia, we would have in a few years something definite in regard to the best anesthetic in the different types of cases.

NITROUS OXIDE ANESTHESIA.*

BY H. M. DECKER, M. D.,
DAVENPORT, IA.

In 1910 nitrous oxide was selected as the anesthetic of choice. Since that time no other inhalation anesthetic has been employed by us for major surgical cases except in throat work.

The following comparison of ether and nitrous oxide oxygen anesthesia will explain this decision.

Ether is irritating and has a disagreeable odor. Its action is very slow, thus prolonging the discomfort of the patient for a considerable period. It acts by dissolving out the lipoids of the brain cells. It also acts on all other lipoids, those of the liver, kidney and blood cells being the most important. The red cells may be destroyed, liberating enough hemoglobin to be demonstrable in the urine and producing a post-anesthetic anemia. Perhaps the most unfortunate effect of ether is its action on the phagocytes. It renders them inactive at just the time when their activity is most needed.

Crile has shown that shock is relatively easy of production under ether. There is no protection of the brain cells against exhaustion. The blood pressure is sharply raised at first but soon falls below normal.

The elimination is slow. Ether is firmly fixed in the fats and is given off slowly, the effects lasting for hours after operation. Nausea and vomiting occur in a large percentage of cases. Patients to whom ether has been administered have an intense dread of the drug.

Nitrous oxide has a sweetish odor and taste which is not unpleasant. It is not irritating or suffocating. Its action is very rapid, ordinarily producing unconsciousness in two or three minutes and surgical anesthesia in five or six minutes. Nitrous oxide produces anesthesia by preventing the brain cells from utilizing oxygen. So far as can be determined it has no other action. It does not interfere with phagocytosis or other phenomena of immunity. Shock is not easily produced. This is probably due to the prevention of oxidization and exhaustion of the brain cells.

The blood pressure is not markedly affected. There is a gradual rise of from five to eight m.m. during the first ten or fifteen minutes after which it remains constant to the end of the anesthesia.

*Read before the Eau Claire County Medical Society, March, 1914.

If novocain and adrenalin are used for blocking there will be a sharp rise of from 25 to 50 m.m. which will persist as long as the adrenalin is acting. This adrenalin effect would be the same under ether anesthesia.

The gas is very quickly eliminated. Patients rarely remain asleep over three or four minutes after the administration is stopped. Nausea and vomiting are rare after nitrous oxide. Usually when emesis occurs it is before the patient recovers consciousness.

Albumin is present in the first urine passed after practically every inhalation anesthesia. The amount of albumin seems to be in direct proportion to the degree of cyanosis or suboxidization. This albuminuria is a transient disturbance and is of no particular importance. If a high grade albuminuria is present before operation it would be well to employ Fisher's alkali treatment to prevent an acute exacerbation of the condition.

Nitrous oxide does not produce as deep an anesthetic state as ether and relaxation is often incomplete. This makes abdominal manipulation more difficult. For this reason the rough, impatient surgeon who cares more for his own comfort than for his patient will do well to avoid nitrous oxide anesthesia for laparotomies.

Relaxation can be obtained in nearly every case by the addition of five or ten c.c. of ether. After relaxation has been obtained the ether can be discontinued and a satisfactory anesthesia maintained with nitrous oxide alone. In some cases more ether is needed. There is no special objection to the use of ether in combination with nitrous oxide.

The nervous state of the patient has a great bearing on his behavior with any anesthetic. A calm sleepy patient does much better than a frightened excited one. A small dose of morphine and atropin will quiet the patient and has no bad effect except in a few cases where nausea follows its use.

Morphine also prevents the perception of the immediate after pain which is in some procedures quite severe. The patients awake so soon and are so acutely conscious of pain after nitrous oxide that an anodyne is necessary, whereas after ether they remain semi-conscious for hours and the after pain is not perceived.

In the administration of nitrous oxide the anesthetist must give close attention to the patient because of the rapidity of its action. The pulse, color and respiration must be carefully watched.

In an ideal case the color is not changed, the pulse rate is not perceptibly influenced but the respiration is deeper and a little more rapid than normal.

Rebreathing is a distinct advantage. The patient reinspires his own carbon dioxide mixed with the gas. Carbon dioxide is the natural stimulant to the respiration and to the venous system. It increases the depth of respiration and prevents relaxation of the veins.

The action on the venous system may be one reason why shock is not easily produced. Rebreathing warms and moistens the gas and by using it over and over is a most economical procedure.

Cyanosis is an indication for more oxygen and less rebreathing. Rapid respiration demands more oxygen and less carbon dioxide. Slow shallow respiration demands just the reverse. Should the pulse rate fall quickly and the pressure fall with it there is grave danger and a few breaths of pure air or air and oxygen should be given at once. The danger signals are cyanosis, slowing of the pulse and marked change in blood pressure. Post anesthetic respiratory failure has never been observed.

The face mask is the only important part of the apparatus. A small amount of air leaking into the gas reduces its effectiveness and results in a stormy anesthesia. The less complicated the machine the more time to devote to the patient. It is immaterial whether or not you can figure percentages of oxygen. Every patient is different and needs just enough whether it be 3, 5 or 15 per cent. The anesthetist who governs the machine to meet the needs of his patient will be safer and will do better work than the one who tries to accommodate the patient to the machine.

The care of the patient is much easier after nitrous oxide than after ether. Nitrous oxide adds greatly to the comfort of the patient.

In the hands of a careful, expert anesthetist nitrous oxide is by far the safest inhalation anesthetic for major surgery.

CONGENITAL STENOSIS OF THE PYLORUS.*

BY W. C. F. WITTE, M. D., and P. H. JOBSE, M. D.,
MILWAUKEE.

It was with some hesitation that I first thought of reporting this case of congenital stenosis of the

*Read before the Medical Society of Milwaukee County, March 13, 1914.

pylorus to the members of the Medical Society of Milwaukee County, feeling that perhaps other members of the Society have had a more extensive experience.

I also felt as if an apology might be due, in as much as there have been so many articles written in the various journals in this country, as well as abroad, but upon looking up these writings carefully, and finding that such able and eminent authorities as Hirschsprung, Pfaundler, Thompson, Cautley, Stiles, Schweyzer, F. X. Walls, and many others, still have at this time an honest difference in opinion, regarding the various types of the disease, and the best methods of treatment, I thought I might be pardoned in calling the attention of the members of the Society to some of the salient points under discussion.

It is not unlike the differences in opinion that exist in regard to the treatment of appendicitis, as to whether this should be medical or surgical in its character, therefore, I desire to add at this time one more case of congenital stenosis of the pylorus to the surgical side of the question, and show in the history of the case, its examination and subsequent treatment, that continued medical care would undoubtedly have ended in the death of the patient.

There has been a vast amount of discussion regarding this disease, not yet resulting in uniformity of opinions. Even in the matter of priority of having described the existence of this pathological condition there is a difference of opinion. Osler¹ gives Beardsley the credit of first mentioning the disease in 1788. Then according to some authorities, it was not mentioned in the literature until 1841 when Williamson² reported a case, and in the following year, Siemon and Dawosky³ also described a case as coming under their observation.

Landerer⁴ in 1879 described a case of stenosis and hypertrophy of the pylorus, as did R. Maier⁵ and Tilger⁶ in 1885. But these cases all occurred in adults and the first report of pyloric stenosis in infancy was made by Hirschsprung⁷ in 1888. At that time he reported two cases, the first in an infant in which the symptoms were observed on the tenth day, the child dying on the thirteenth day, the second case showed symptoms during the third month and died during the sixth month of life.

The third case of this kind was reported by Peden in the Glasgow Medical Journal in 1889 and in 1891, Pitt reported the fourth case in the British Medical Journal. These are the first four

cases of stenosis of the pylorus occurring in infancy that have been published.

Modern knowledge of this pathological condition dates from the article of Hirschsprung. From that date and up to 1905, not many cases were reported in the literature, and Scudder⁸ states in an article written during the year 1905, that up to that time only 115 cases could be found. Recent literature is crowded with reports of cases and discussions regarding the etiology, pathology and treatment.

The earlier reports were incomplete and were not confined to cases occurring in infancy, but included cases found in young children and adults. This brought about an extended discussion as to the etiology, dividing the writers into two camps, one upholding the idea that pyloric spasm was the cause and the other that it was true anatomic change, congenital in nature.

In order to get a clearer understanding of these cases, Wachenheim⁹ divided them into three groups as follows:

1st—Those of infants who live for some years even to adult life with more or less evidence of obstruction due to stenosis of a moderate degree.

2nd—Cases of infants which present symptoms of pyloric obstruction, which disappear spontaneously.

3rd—Cases of infants which either die within a few weeks of inanition or are relieved of an almost total obstruction by surgical means.

The average age at which the symptoms make their appearance in cases of the third class, is two weeks, and the average time at which death occurs is nine weeks.

The case to which I wish to call your attention, belongs to the third class, as the symptoms came five weeks after birth, and the gastroenterostomy was performed when the patient was eleven weeks of age.

The patient was a male child, born of apparently healthy parents, weighing at birth seven and a half pounds. For three weeks the child was breast fed and during this time there were no symptoms.

At the end of three weeks the child was given cow's milk, and two weeks later vomiting began, at first slight, gradually increasing. The vomiting was characteristic, coming on sometimes immediately after eating, sometimes later, but at all times expulsive in character. The amount of material vomited being equal to or slightly more than the amount of the feeding.

Later by use of the stomach tube, having allowed

sufficient time to elapse after feeding for ordinary digestion to have occurred, it was possible to regain approximately the entire feeding.

Shortly after the vomiting began, the gastric peristalsis was visible, becoming gradually more marked as the disease progressed, and the child lost in weight.

No pyloric tumor could be made out at this time, probably on account of the rigidity of the abdomen, produced by the crying of the child.

During the first five weeks of life, the stools were apparently normal in character, and after the appearance of the symptoms of pyloric stenosis, there were no more visible stools.

The patient at this time ran a temperature of 101° to 102.5° , and from the beginning of the symptoms until the time of the operation there was a gradual and continuous loss of weight.

The patient was seen by Dr. P. H. Jobse in consultation one week prior to operation, at which time he recommended breast milk, and a wet nurse was secured. Numerous changes of food had been made by Dr. A. A. Hoyer of Randolph, Wis., to whom we are indebted for a complete history of the case, but with no improvement, and after a week's trial with the breast milk, with no avail, operative relief was suggested to the parents of the child, and accepted.

The child at this time was in a state of extreme inanition hiccupping and lying in a semi-comatose condition. There were no stools, vomiting was of an expulsive type, and followed by a distinct gastric peristalsis, the lower portion of the abdomen being collapsed.

Under ether narcosis, it was thought that a tumor at the pylorus could be felt, but no time was lost in making extended examinations, and the operation was immediately made by Dr. P. H. Jobse, by making the usual straight incision through the right rectus muscle, the lower end of the stomach was brought in the operating field, where the pylorus was plainly seen. There was present a cylindrical tumor mass, of a cartilaginous consistency about three-quarters of an inch long. The hypertrophied pylorus and the first part of the duodenum, had an edematous appearance, the blood vessels were dilated and between them the pearly glistening edematous tissues were distinctly seen.

A posterior gastroenterostomy, no loop operation, was the one of choice, done by the use of sutures. Notwithstanding the small size of the stomach and intestines, the ordinary gastroenteros-

tomy clamps and sutures were used, and only in the choice of forceps and tissue forceps when certain eye instruments were borrowed, was an exception made in choosing the instruments.

There was no special difficulty or untoward symptom from the use of the long clamps, but there is no doubt smaller clamps would be preferable. Twenty-nine minutes after the beginning of the anesthetic, the operation was completed and the patient put to bed.

There was little, if any, shock, and four hours after the operation liquid food was given to the child, which it relished and retained. During the remainder of the time spent in the hospital, and since returning home there has been a constant improvement. It has been gaining in weight at the rate of a pound a week and the patient has not vomited since the operation.

From the history of the case, and a review of the symptoms, as well as the pathological findings at the time of operation it would seem easy to conclude that whatever the cause is which produced the pyloric stenosis, it must have been operating before birth, but there is where there is a wide difference of opinion, with endless discussion, and conflicting data. Judging from what has been written in the text books and various journals, I think we may safely conclude that nothing definite is known regarding the exact cause of this pathological condition.

By congenital stenosis of the pylorus is meant an over-growth chiefly confined to the muscular and sub-mucous coats, to such an extent as to nearly or completely prevent the passage of food from the stomach into the duodenum.

The findings of the post-mortem examinations have been quite uniform in character, as nearly all pathologists have reported the presence of a tumor or swelling at the pylorus involving the lumen of the bowel at that point. The mucous membrane is slightly swollen and sometimes somewhat elevated into longitudinal rolls, otherwise it is normal. The sub-mucous and muscular coats are thickened, the thickening being of a sclerotic character, having poor staining properties. The hypertrophy being due to the enlargement of the muscular coat, and especially of the circular fibres, the peritoneal coat is nearly normal (Schweyzer).

The normal thickness of the pylorus is shown in a table given by Grau-Scudder & Quimby¹⁰ as well as the amount it is increased when hypertrophied. That there is a considerable variation in the thickness in the normal pylorus is shown by the routine

examinations of the pylorus, in operation in that locality. Pfaundler states that the normal thickness of the pylorus at birth is about one-tenth of an inch and it remains practically the same during the first year. The lumen on the other hand widens rapidly, approximately three times its size during the same length of time.

Pyloric spasm is defined by W. J. Mayo¹¹ as an intermittent pathological contraction of the pylorus and antrum. He looks upon it rather as a symptom and not as having an entity of its own, but due to disease existing somewhere in the organs derived from the foregut.

In discussing the subject of pyloric spasm he says that the esophagus, stomach and duodenum to a point below the common duct, the liver and the pancreas are all offshoots of the foregut. All these organs are concerned in the preparation of the food for absorption, but do not themselves absorb, for this reason disease of the pylorus and the first four inches of the duodenum is associated with the physiology and pathology of the stomach. He quotes Starling, Pawlow, Kelling, and Cannon, as having demonstrated that the control of the pyloric apparatus is largely vested in the duodenum and adds his own opinion that the organs derived from the foregut can, in a measure, do the same. He believes that pyloric spasm is an indication of an irritation in some part of the intestinal canal, causing an irregular closing of the pylorus to prevent the food from leaving the stomach. The stomach is partly controlled by the central nervous system, but to a large extent the digestive system is controlled by certain chemicals, called by Starling hormones, and aided by the sympathetic system.

Hyperchlorhydria has been said to be the cause of pyloric spasm¹² and in many of the cases there is a history of the material vomited being decidedly acid. Many and in fact most of the cases treated medicinally have been given alkalies either in the medicine or by gastric lavage. Pfaundler¹³ has been the chief exponent of the theory that pyloric spasm can cause the stenosis of the pylorus. He claimed that the pylorus of an entirely normal stomach may remain contracted post-mortem, and assume the consistency of an annular tumor narrowing the lumen of the pylorus almost to obliteration and that the findings of Hirschsprung and others is entirely consistent with his theory that we are dealing with a functional spasm alone. In this opinion he is ably seconded by Still¹⁴, Schmidt¹⁵,

and Freund¹⁶ who added that the spasm was of neuropathic origin.

While this theory does not hold as prominent a position regarding the etiology of stenosis of the pylorus in infancy as it once did, it still is given credit in certain cases as being an etiological factor in its causation by such men as Huebner, Koplik, Morse, Baginsky and others.

In opposition to the spasmogenic theory, Meltzer¹⁷ who operated upon the second case for relief of this condition, states that a spasm lasting for only a few weeks can not cause the excessive muscular development, and that the constant increase of the submucous coat shows hyperplasia and not merely compensatory hypertrophy.

Other writers contend that it is primarily a congenital overgrowth, occurring chiefly in the circular fibers of the muscular coat and in the submucous, because—1st. The condition has been found in a seven months fetus (Dent). 2nd. Symptoms come on so early in life that it is improbable that such a degree of hypertrophy could occur. 3rd. In some cases it comes on suddenly and not gradually. 4th. Cases treated medically or surgically successfully, and later terminating fatally from some other cause, show at the post-mortem that the hypertrophy remains unchanged.

The theory that it is an anatomical overgrowth congenital in character is upheld by most authorities, especially by Cautley and Dent¹⁸ who have had a large experience in congenital stenosis of the pylorus.

Having gone into some detail regarding the etiology and pathology, so far as known, so that we may better appreciate the symptoms, let us see upon what grounds a diagnosis can be established.

The symptoms in cases living to adult life would not differ materially from those caused by any other obstruction of the pylorus, and so we shall only mention those found in infancy, and practically that is before the child is four months old. It is also evident that the chain of symptoms will depend upon the degree of stenosis. Usually the child will be apparently well for a short period, averaging about eight days, then the vomiting begins. The vomiting is rather characteristic. It is not the regurgitation from an over-filled stomach, but is expulsive in character, and the quantity is nearly equal to the amount taken into the stomach. Often the material vomited is quite acid in character, and the vomiting occurs quite regularly and

is persistent, occasionally bile may be found in the vomitus, as noted by Schweyzer.

The degree of wasting depends upon the amount of food, if any, passing through the pylorus, and somewhat upon the treatment instituted, at any rate it is gradual and continuous in severe cases.

Constipation is severe, the stool containing little or no fecal matter, being meconium-like in character.

Dilatation of the stomach occurs, and visible gastric peristalsis can sometimes be seen, often a pyloric tumor can be felt. Diarrhea may occur. There is an epigastric enlargement, and the lower portion of abdomen is collapsed.

As we grow more familiar with this group of symptoms we will diagnose this condition more often during life, and not in the post-mortem room, as has been the case in the past.

The one disease which is most often mistaken for congenital stenosis of the pylorus is the indigestion of infancy.

The diagnosis can be made more often if we get (Schweyzer), 1. A good history of the case, constant vomiting of stomach contents, without other clinical causes. 2. When nearly the entire meal can be recovered after two hours, by use of the stomach tube. 3. Ease with which stomach can be outlined, its peristalsis and collapsed intestine. 4. By giving bismuth, and examining by Roentgen ray.

Congenital atresia of the pylorus or gut lower down must be taken into consideration in the differential diagnosis. Miller¹⁹ differentiates congenital pyloric stenosis from acid dyspepsia, in that the former is found mostly in males, has an earlier onset, more rapid wasting, less painful, vomiting more projectile, less increase in the acidity, more definite peristalsis than in acid dyspepsia.

It is diagnosed from pyloric spasm, by the fact that this condition is found most frequently in bottle fed babies, who are neurotic and irritable, comes on several weeks after birth and differs from the truly congenital pyloric obstruction with a definite hypertrophy of the circular muscular fibers, in that the stool contains fecal matter, when the pylorus is felt, it is so only when gastric contraction occurs, vomiting lacks the characteristic of the anatomic obstruction cases (Scudder).

When we come to consider the treatment we notice a wide difference of opinion, as one group of physicians claim an excellent per cent. of recoveries in cases handled medically, and another group state just as firmly that medical treatment never

cured any cases and that surgery is the only recourse. The probabilities are that both versions are correct in certain cases, for as previously stated there is a group of cases in which pyloric spasm plays a most important part in the etiology, or there may be a small outlet to the stomach, sufficient to keep the infant alive for a length of time until the diameter of the opening of the pylorus is sufficiently enlarged to allow the food to pass in sufficient quantity to sustain life, as stated by Pfaundler who found the diameter of the lumen of the pylorus increases approximately three times in the first year of life.

Among the advocates of medical cure of this condition are Hutchison²⁰ who claims to have cured thirteen out of fourteen cases, Hueber²¹ cured nineteen out of twenty-one, Stark²² reports eleven out of twelve as being cured.

Scudder²³ in an article claims that the cases of congenital pyloric stenosis reported as cured medically are cases of mistaken diagnosis, and gives as his opinion that no cases are cured without surgical intervention.

In a more recent article, published in the *Annals of Surgery* for February, 1914, the same author reports his experience with congenital stenosis of the pylorus up to the present time. He reviews his previous articles and re-affirms his opinion that the condition is only cured by surgical measures.

He states that in his series of cases there has been no harm done to the digestion of fat, protein, and starch, by the fact of the food passing through the artificial opening as is nearly always the case after a posterior gastroenterostomy, and in only a few cases is there a small amount of food passing through the pylorus, shown by a series of tests and X-ray examinations made to determine this fact.

He quotes a list of seventeen cases, operated upon with a mortality of 13.8% and gives as his opinion that medical treatment cannot equal this low mortality rate.

H. M. Richter, in the *Journal of the American Medical Ass'n*, Jan. 31, 1914, also publishes his conclusions after a series of twenty-two cases operated upon. Of these, one case was subjected to a divulsion of the pylorus, two to a sub-mucous pyloroplasty, and the remaining nineteen to a posterior gastroenterostomy. His mortality rate is almost the same as that of Scudder, being 13.6% and his conclusions agree with Scudder that the condition calls for surgical relief.

Freund²⁴ recommends that the child be breast

fed, given Carlsbad water in connection with the milk, and later on whole milk.

Those cases not responding to this form of treatment were advised to submit to surgical relief. Those cases in which it seems safe to temporize before resorting to surgical interference have, according to the various authorities, been most successfully managed by giving breast milk, gastric lavage with some mild alkaline fluid, inunctions of olive oil and rectal feeding. This plan carried out with great care still gives a mortality of from 50% to 80% (Monnier).

The first operation performed for relief of congenital pyloric stenosis was done by Stern²⁵ in 1898 and the second by Meltzer²⁶ in 1898. From 1898 to 1905 there appeared in the literature the reports of 115 cases, of these 60 were operated upon, and out of the 115 cases 55 came to the autopsy room (Scudder).

The following table shows the kind of operation chosen by the different surgeons and the result.

Operation	Cases	Re-covery	Died	Mortality
Gastroenterostomy . . .	40	21	19	47.7
Loretta's operation,				
Divulsion	11	7	4	36.3
Pyloroplasty	8	4	4	50
Pylorectomy	1	0	1	100
	60	32	28	46.6

This would seem a rather high mortality rate but Scudder in his recent article calls our attention to the fact that during this time gastroenterostomy was being perfected, as was all surgery on the intestinal canal. Gastroenterostomy in an infant was an entirely new procedure and even at that the mortality rate is under that in cases treated medically.

The cause of death in most of the cases was imperfect technique. In one case (Meltzer) a too large Murphy button was used causing intestinal obstruction. In one case the redundant mucous membrane was not trimmed off and later it plugged the opening in the stomach (Mackay).

In one case necrosis followed Loretta's operation of digital divulsion of the pylorus. Others died as the result of leakage at the point of suture, and from shock, and lack of rapidity in operating.

At the present time many of these defects have been remedied. The choice of operation is gradually becoming that of gastroenterostomy (poster-

ior) although Keefe²⁷ reports six cases operated on by performing pyloroplasty. He claims the advantages for pyloroplasty are, it is easier to do, quicker, less traumatism, and it directly remedies the defect.

He gives the following technique: After opening the stomach a short distance above the pylorus, he inserts a sound, and passes it through the pylorus, then cuts down on the sound, the incision being parallel to the lumen of the pylorus and extending to the mucous coat, then the hypertrophied muscular coat is resected, and the wound closed by suturing at a right angle to the lumen of the pylorus.

Pyloroplasty may in the hands of some and in a few selected cases, be preferable but the statistics are all in favor of a posterior gastroenterostomy. Scudder recently reported fourteen cases with one death, ten cases collected by Stillman, with one death, and Richter nine cases with one death, an average of less than ten per cent.

These cases were treated during the period of 1905 to 1911, and the choice of operation was a posterior gastroenterostomy.

Certainly the case reported in this paper could not have been treated as successfully by pyloroplasty because the pylorus consisted of a hard cartilage-like, fusiform mass, so rigid that it would have been impossible to make any satisfactory approximation while suturing the wound at right angle to the incision.

In conclusion, while I would not like to lay down any set rules in the management of cases of congenital stenosis of the pylorus, I am free to state that in the future, in any similar cases coming under our observation, and presenting the characteristic symptoms of a true stenosis due to pathological process in the muscular and sub-mucous coats of the intestine, surgical intervention will be advised, and the operation of choice will be a posterior gastroenterostomy.

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ANAPHYLAXIS IN CANCER.*

BY F. GREGORY CONNELL, M. D.,
OSHKOSH, WIS.

At the meeting of this Society held in June, 1910, I had the honor to read a paper on "The Early Diagnosis of Cancer", in which I mentioned the unsatisfactory results met with in a series of experiments in which an attempt was made to diagnose malignancy by means of the anaphylactic reaction.

Guinea pigs were sensitized in pairs, by intra-peritoneal injection with serum from a known cancerous, and from a non-cancerous patient. The intoxicating dose consisted of cancer juice obtained by crushing cancer tissue after removing the blood as thoroughly as possible, and was injected after the usual incubation period. In 15 such experiments, only four reactions were positive, and in no control did severe anaphylactic shock occur.

Because of the importance attached by Pfeiffer and Finsterer, to a fall of the temperature in anaphylactic shock, and their claim that it may be the only evidence of such a reaction, another series of similar injections was carried out in which careful temperature readings were made; but it was found that a fall of temperature in guinea pigs might occur under various conditions, and could not be relied upon as an indicator of anaphylaxis.

In a search for a more isolated, pure or specific cancer protein, that is, one less likely to be con-

taminated by blood serum, in 1911 I used the "Cancer Residue" of Vaughan for the intoxicating dose. This was at first prepared by ourselves, and subsequently procured from Parke, Davis and Co., the size of the dose varied from 5 to 20 c.c., and injections were made, intra-peritoneal, venous and cardiac, and retro-orbital, but in none of the 12 experiments did I secure an anaphylactic reaction.

Attempts to differentiate the blood-serum of cancerous from non-cancerous individuals have been numerous during the last few years, and an anaphylactic test in guinea pigs has been carried out by others. Maragliano and Isayo, of Italy, in 1910, report, "Negative Experimental Researches on Anaphylaxis in Cancer." Ranzi, likewise met with unsatisfactory results. Yamanouchi noted a reaction following the injection of an emulsion of tumor cells, into cancer mice; and the absence of such reaction in normal mice. Apolant, however, was unable to confirm these results. Pfeiffer and Finsterer, claim to have demonstrated that cancer juice is capable of causing anaphylaxis in guinea pigs. Dungern and Coca found that an injection of cancer juice into the person from whom the tumor was obtained, was followed by a well marked reaction; but that this same cancer juice when injected into other individuals, even though they were cancerous, was not followed by any such reaction.

Walter Vaughan, in his most interesting work on "Specific Ferments of the Cancer Cell" has shown that there is a temporary but marked increase in the percentage of the large mononuclear leukocytes in rabbits after the injection of cancer vaccine or residue. Rabbits were sensitized, and then cancer cell emulsion was injected intravenously, and he found that in the animals with over 30% large mononuclear leukocytes, death usually occurred within from 1 to 3 hours. While in unsensitized rabbits there was no noticeable effect after such intravenous injection. This increase in the percentage of the large mononuclear leukocyte, is not permanent, lasting only from 1 to 10 hours, and it is impossible to produce fatal results after this stage of "transitory sensitization" has passed.

Richet, the Father of Anaphylaxis, in his book published during the present year, says: "Anaphylaxis by injection of cancerous tumors, although *a priori* very likely, has not yet been definitely demonstrated." And after mentioning some negative experiments of his own, says: "Nevertheless

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it is rational to suppose that anaphylacticising substances will be found in cancerous tumors."

In July, 1911, Louis Ransohoff, of Cincinnati, made a preliminary report, and at the last meeting of the A. M. A., an extensive report, on "Anaphylaxis in the Diagnosis of Cancer." Guinea pigs in pairs were sensitized, one with blood serum from a normal individual, and the other with blood serum from a cancer case. And both pigs were given a final or intoxicating dose of blood serum from a cancer patient. The dosage, the interval between the two injections, and the technique was the same as that usually carried out in such experiments. The results were startling; the pigs sensitized with normal serum had prompt and severe anaphylaxis; while the animals that were sensitized with cancer serum, had mild, and if any, delayed symptoms of anaphylaxis.

Ransohoff concludes, "Evidently the pigs of series B, those sensitized with cancer blood serum, had been immunized against the anaphylactic reaction, as they did not react when a final dose of the cancer blood serum was injected."

With our present state of knowledge, or rather lack of knowledge, regarding anaphylaxis, immunity, and the relation of the one to the other this conclusion can not be accepted, in the absence of the reasoning that has lead up to it.

"Immunized against the anaphylactic reaction" is an unhappy choice of terms and is in need of elucidation. Hektoen says (J. A. M. A., 4-13-12) "There is then no contradiction between immunity and allergy (anaphylaxis) which is a form of antibody reaction and so to speak, an incident in the course of immunization."

The development of an immunity against cancer protein (granting that such a protein is specific and differs from that of the normal tissue cells or serum, which has not, as yet, been accepted) by a *single* injection of this material in conjunction with the usual proteins of the blood serum, must be demonstrated, with the pure protein. The use of a mixture of proteins, those of cancer and of the blood serum, in both the sensitizing and in the intoxicating injections, instead of the pure protein in question for at least one of the injections, calls for a demonstration of the part played in the reaction, or the lack of reaction, by the cancer protein. We must learn why the non-cancerous protein of the blood serum, which is greatly in excess of the cancer protein does not cause a reaction in

spite of the presence of a comparatively minute amount of the latter. These and other questions must be satisfactorily dealt with before the conclusion of Ransohoff may be accepted.

Theoretically, this conclusion demands a reconsideration and readjustment of our present knowledge of the subject; but practically, because of its importance, and the uniformity of his positive findings, the report urgently calls for either confirmation or rejection by others.

I am at present carrying on a series of experiments in which this method is being repeated, and while the numbers does not, as yet, allow definite conclusions, I may say that my results are not in accord with those published by Ransohoff.

If his results meet with confirmation in the hands of independent observers, then one of the most important advances in the control of cancer will have been achieved, that is *early* diagnosis.

THE EARLY DIAGNOSIS OF SYPHILIS.*

BY O. H. FOERSTER, M. D.,
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Infection of the human body with syphilis has always been regarded as a serious condition, but the extreme gravity of this disease has not been generally realized until very recently. The intensive study of the disease in the past few years has disclosed its direct causal relationship to several diseases of the central nervous system, to aneurism and sclerotic changes in the blood vessels, to organs of special sense and the various internal organs,—in fact it is now recognized that none of the structures of the body are exempt from invasion by the spirocheta pallidum. Long periods of latency may be followed by actively destructive processes in any tissue of the body, and at no time is an inefficiently treated patient secure from further manifestations of the disease. During periods of apparent well being the most serious changes may be in progress, and when these finally become manifest by symptoms the damage insidiously produced is often irreparable. Of this the changes in the nervous and vascular systems are well known examples.

It has remained for recent investigation to show that the foundation for later destructive processes is laid early, in fact often within the first few weeks of the infection. Syphilis is an acute gener-

*Read before the Milwaukee Medical Society, March 24, 1914.

alized infection only once—early in its course, and all later manifestations are a result of the lighting up or reactivation of foci of spirochetes which have remained dormant, perhaps for years. It has been conclusively demonstrated that infection of the meninges occurs early in the disease, even as early as 6 weeks after the appearance of the initial lesion, and that such vital structures as the optic-nerve may harbor spirochetes pallida before the secondary eruption shows itself in the skin. We (Dr. C. A. Baer and I) have repeatedly seen pupillary changes in patients presenting secondary cutaneous and mucus membrane lesions of but few days duration, and in the light of present knowledge regard the early syphilitic headache as evidence in some instances of meningeal infection. Changes in the cerebrospinal fluid occur early in syphilis in many cases, and some writers as Wechselmann, do not hesitate to say that *all* cases suffer meningeal infection, and they have for that reason ceased the routine examination of the cerebrospinal fluid as superfluous until they are prepared to discharge the patient from further active treatment. Paralysis of the facial nerve early in syphilis has long been recognized and though infrequent is mentioned here as further evidence of early nerve involvement. With such important changes frequently taking place early in vital structures and leading to disastrous consequences, perhaps after a lapse of many years of supposed security, the earliest possible recognition of the occurrence of infection becomes imperative. We no longer have the right, supposedly in the patient's interest, to wait for "further developments" because a lesion suspected of being a chancre is not "typical", and thereby allow days and weeks to elapse before establishing the diagnosis. During this period of delay we now know that irreparable damage may be done through invasion of vital structures by spirochetes and that every added day of delay increases the chances of such invasion.

How then are we to determine the actual occurrence of infection at a time sufficiently early to perhaps in many instances, by promptly instituting treatment, prevent its generalization? The character of every lesion, be it ever so insignificant, which appears after possible exposure of the patient to syphilitic contagion, or a lesion which by its clinical appearance, be it genital or extragenital in location, is under suspicion, should be at once investigated microscopically for the presence of

spirochetes pallida. The darkfield examination will in most instances promptly dispose of the question and establish the diagnosis at a time when all other means fail. The discovery of the spirocheta pallidum by this means is proof positive of syphilis. It requires, however, that the examiner be competent to differentiate the various spirillar organisms which may be present in such preparations, especially if obtained from the oral cavity. The technic is comparatively simple: the lesion to be examined is thoroughly cleansed with sterile water or sterile salt solution, and rubbed with sterile gauze so as to produce a flow of serum from the depths of the lesion. The first serum which oozes out is wiped away, and that which appears later is transferred on a platinum loop to a sterile glass slide. The droplet is covered by a sterile coverglass, and spread evenly with slight pressure, whereupon the edge of the coverglass is ringed with vaseline to prevent evaporation. It is now examined under oil immersion with the darkfield apparatus in place, the source of illumination being a small carbon arc-lamp. Some observers add sterile salt solution to the serum under examination, but this added dilution increases the difficulty of finding spirochetes when they happen to be few in number. If only a very small droplet of serum is obtained the addition of salt solution may be required before a satisfactory preparation is secured. It is necessary at times to examine a number of slides before spirochetes pallida are found, and the failure to find them in a number of preparations is, of course, not absolute proof of the absence of syphilis, but indicates the need of further examinations. In older lesions with more or less marginal induration the serum from the central portion may not show spirochetes while that obtained from the depths of the periphery may harbor them in numbers. The regional glands, especially if enlarged, should be punctured and the aspirated material examined, when the lesion itself is of a reasonably suspicious nature and spirochaetes are not discovered there. In our experience the failure to find spirochetes has always meant an absence of syphilis as shown by later developments.

The value of the darkfield method is especially evident in cases of extragenital infection, both for the purpose of early diagnosis and to prevent the spreading of infection. We have been enabled by this means to recognize as specific several lesions

on the fingers, tonsils, and one lesion on the ocular conjunctiva concealed beneath the outer canthus. Mucous patches if clinically uncertain as to diagnosis can be subjected to this examination also, but I am here concerned only with syphilis in its earliest stage.

The demonstration of spirochetæ pallida by the darkfield method requires the possession of or access to the necessary apparatus, and where the electric current is not available a special gas lamp giving an intense illumination must be substituted. A ready method, known as the india ink method, has been offered to replace the more exacting device of darkfield illumination. In this procedure the serum is carefully and evenly mixed on the slide with india ink—the Pelikan band being especially recommended—and is then spread in a very thin film and allowed to dry without heating. The success of this method depends upon the thin and even character of the film, which is supposed to form a dark surrounding for the lighter, practically unsustained spirochetæ. These are observed as very fine, spirally wound filaments, considerably shrunken, and of course not living and motile as with the darkfield method. It is in our opinion more difficult to detect and to recognize the spirochetæ in india ink preparations, and we do not consider this to be a reliable method. In smears prepared with the Giemsa stain, which requires considerable experience to obtain good results, the organisms are likewise shrunken, but readily recognized by the trained observer. It is a slower process than the darkfield method, but is equally reliable. The Levaditi method is excellent in the search for spirochetæ in tissues, but as a means of diagnosis, when time is of value, is not applicable.

In a limited number of patients the Wassermann test applied to the blood serum can be of assistance in establishing an early diagnosis. It is now known that about 20 per cent of cases of syphilis give a positive reaction within the first 6 weeks after infection, some within even a few weeks. After the 6th week the percentage increases rapidly to 80, and shortly before the appearance of the generalized eruption is 100 per cent. The Wassermann reaction is therefore not generally available as an aid to the earliest possible diagnosis of syphilis, and by its very nature indicates when positive that a general reaction of the organism has already occurred. Experience has shown that an

abortive treatment of the disease in the presence of a positive Wassermann reaction, even if obtained very early, is not attended with the same measure of success as in cases with a negative reaction.

When a patient with a suspected early chancre can definitely trace the probable source of his infection to another person, and if this person upon examination is found to have syphilis (confrontation), an early diagnosis may likewise be established, but can be considered absolute only if spirochetæ pallida are found in the lesion under suspicion. It is only in very few instances that a primary lesion upon its first appearance will be clinically recognizable as specific, and even then we are not justified in proceeding with treatment until we have demonstrated the presence of the spirocheta pallidum.

It is of the greatest importance if one desires to make an early diagnosis that the lesion be left without treatment other than an application of salt solution, for even mild antiseptics, above all calomel applications, will prevent the development of spirochetæ and much valuable time will be lost. The application of caustics to possible early lesions cannot be condemned too strongly. They serve no therapeutic purpose, as their action is always superficial, they are followed in every instance by an inflammatory reaction resulting in induration which distorts the clinical picture, and again much valuable time is lost.

In a disease of the gravity of syphilis it has become incumbent upon us, in the light of our present knowledge, to establish the diagnosis at the earliest possible moment, and to thereby provide the opportunity to prevent by proper treatment the dire results which are otherwise almost certain to follow. It is everywhere recognized that the earliest possible diagnosis of tuberculosis is desirable from every standpoint—above all that of cure and of control of the infection. Every physician should be conversant with the methods of making an early diagnosis of tuberculosis, clinically and microscopically, and to thereby offer his patients every opportunity for recovery. The early diagnosis of syphilis is even more important, for upon this *early* diagnosis depends the possibility of either entirely aborting the disease or of at least preventing the infection of vital structures and later irreparable changes.

CANCER OF THE TONGUE, BASED UPON
THE STUDY OF OVER ONE HUNDRED
CASES.*

BY JOSEPH C. BLOODGOOD, M. D.,
BALTIMORE, MD.

This study has led to some very remarkable conclusions.

It has been demonstrated that the failure to cure when cancer of the tongue is fully developed is due chiefly to the neglect to remove the muscles of the floor of the mouth below the cancer.

The high mortality after operations for cancer of the tongue is chiefly due to the removal of the floor of the mouth without removing at the same time a section of the lower jaw.

The investigation has also shown that if a lesion of the tongue is subjected to immediate operation within a few weeks after the onset of the lesion, the chances of a permanent cure are best. In this stage it will usually be sufficient to remove the local lesion with a good margin of healthy tissue, and this removal should be accomplished with the electric cautery. The center of the lesion should be preserved for microscopic study. When this is done the chances are that the lesion will still be benign. But even though the lesion prove microscopically cancer, the probabilities of a cure are almost 100 per cent.

In the past the surgeons have apparently performed too extensive operations upon the glands of the neck. This is theoretically incorrect because cancer of the tongue infiltrates into the glands of the neck through the floor of the mouth. Should the glands be involved and the floor of the mouth not removed, one could hope for little, if anything, from such an operation. If the glands of the neck are not involved, this does not preclude infiltration of the floor of the mouth.

When the operation is performed in one stage, it is impossible to remove the tongue, the floor of the mouth, the glands, and then close the opening in the mouth unless a section of the lower jaw is also removed. If the former operation is done thoroughly the mortality is very high—almost 80 per cent.—from primary or secondary pneumonia, or late infection from the oral fistula.

The author was first impressed with these facts when it was found that the first cured cases were

either cancers originating in the floor of the mouth, or cancers of the tongue invading the floor of the mouth, in which it was absolutely necessary to resect portions of the lower jaw in order to remove the disease. The extent of the disease, therefore, forced the surgeon to the more radical and mutilating procedure and allowed him to perform removal *en-bloc*. During the same period earlier and more favorable cases were subjected to less extensive operations. When the floor of the mouth was not removed, local recurrence always followed, and when it was thoroughly removed the patients died from the operation.

In November 1910 the author for the first time, in a favorable early cancer of the tongue, removed the right half of the tongue, the right floor of the mouth, the right half of the jaw and the glands on the right side of the neck, all in one piece. The wound was closed by suturing the mucous membrane of the right cheek to the remaining half of the tongue. The patient was able to swallow at once after operation, and no recurrence followed. The microscopic study showed that the floor of the mouth was infiltrated, but the glands were not.

As the removal of the lower jaw, especially at the symphysis is mutilating, the author has attempted to accomplish the same results in a different way.

The glands of the neck are first removed and after the operation their connection with the floor of the mouth below the lesion is thoroughly burned with the cautery and the wound closed. Then the lesion in the tongue or floor of the mouth is attacked with the electric cautery. The application of this is usually repeated two or more times, until everything is destroyed down to the area of the first cauterization from below. The healed skin flap of the first operation forms the floor of the mouth and prevents an oral fistula.

The first operation after this method was performed in April, 1912—two years ago. The lesion was a cancer occupying the floor of the mouth between the tongue and the symphysis of the jaw. It was about the size of a silver dollar. Permanent cures have been accomplished in similar cases by *en-bloc* dissection of the tongue, floor of mouth, jaw and glands. The oldest case thus treated lived fifteen years, but the operation is very mutilating, and recently a patient refused to submit to it. This led the author to attempt what he had had in mind for some years. At the present writing—two years

*Author's abstract of paper delivered before the American Surgical Association, New York, April 9, 1914.

since operation—there is no evidence of recurrence and no mutilation.

Since then four cases have received this treatment with, so far apparent success.

The majority of cases of cancer of the tongue seek surgical aid at an unnecessarily late period. In every case the patient is warned. There is always something to be seen and felt in the tongue or floor of the mouth. If such a lesion is investigated at once, a local operation with the electric cautery should be sufficient; in a later stage removal of the glands and repeated cauterizations of the mouth lesion; in still later stages resection of the jaw must be done. The author's recent experience seems to show that this operation should be done in stages: first, thorough removal of the glands with cauterization of the floor of the mouth from the neck wound; second, cauterization of the lesion within the mouth; third, removal of the lower jaw and cauterized area. These points will be discussed in detail with illustrative cases in the completed paper.

When the cases observed up until 1908—a period of 18 years—are compared with those of the past five years, the influence of education is well shown. The very early precancerous lesions have increased from 8 to 30 per cent. The late and inoperable cases have decreased from 18 to 10 per cent. The cures have increased from 21 to 50 per cent.

When the author considers the cases (14 in all) personally operated on by him by these new methods in the past five years he finds that there has been no postoperative mortality, and so far but one patient is dead of recurrent carcinoma. In this case the lesion on the tongue had previously been subjected to operation, the recurrent tumor was extensive, and the glands of the neck involved.

In this group of cases every type of operation according to the newer methods just described is represented. At the present time there is evidence of recurrence in only one case: here, too, the lesion was most extensive and the operation most radical.

The experience with these 14 cases proves the point as far as the immediate mortality is concerned, because considering all the cases studied, the postoperative mortality has been about 22 per cent. Since recurrence as a rule takes place within one year of the operation, the results in the author's 14 cases also demonstrate that the improved methods promise a much larger per cent.

of permanent cures, and certainly a longer freedom from recurrence.

We have, therefore, apparently conquered the technique of operations for cancer of the tongue. Now, if we can educate patients to come earlier, we shall probably conquer the disease.

CANCER AND THE CANCER PROBLEM.*

A STATISTICAL REFERENCE.

WILLIAM EDWIN GROUND, M. D.,
SUPERIOR.

From all nations and climes comes the report that cancer is on the increase. It is idle to affirm or deny that it may be more common in some races than in others, but that it is very prevalent among all civilized nations is common knowledge.

It is also a fact worthy of mention, that the disease occurs in savage races. As for example cancer of the breast in the native woman of Sudan; an epithelioma of the jaw in a Dinka of the White Nile; an osteochondrosarcoma in a native of Northern Nigeria.

While the proposition that cancer is on the increase is generally accepted, yet there are those who hesitate to be convinced that such really is the case. The latter argue that the reason more die of cancer is because more people reach middle life or the cancer age. They further assert that owing to more exact diagnostic methods, a greater number of cases are placed in the cancer list, and that better statistics are kept.

The validity of both of these contentions we freely admit, but their force as arguments against the increasing prevalence of cancer is open to serious objection. They fail to take into consideration the many lives that are being saved from the cancer fate by the timely operation and other modern efficient treatment, as well as the removal of certain lesions from the cancer list that were formerly included. The fatalistic attitude maintained for so long with regard to the cure of cancer, and the fatuous course pursued, allowed the disease to proceed largely undisturbed to its fatal termination. The dramatic manifestations of cancer, especially advanced cancer, render accurate diagnosis probable even without the microscope.

The earliest figures obtainable bearing on the prevalence of malignant disease are those of the Lon-

*These papers were read in abstract before the Duluth-Superior Academy of Medicine, March 18, 1914.

don Equitable society, between 1800 and 1825. During this period out of 1930 deaths from all causes, only 25 or 1.3 per cent. were from cancer. Whereas now the best figures show for the cancer age 6.4 for men and 11.2 for women. The statistics for Massachusetts and New Jersey were well kept as far back as 1880 and are dependable. According to these figures, Rittenhouse argues that cancer has increased from 42 to 85 deaths per 100,000 population in these states in 30 years. In ten registration states the cancer rate rose between 1901 and 1911 as follows: from the age of 20 to 25 the increase was 23 per cent.; from 25 to 30 an increase of 4 per cent.; from 35 to 45, 1 per cent.; from 45 to 55, 14 per cent.; 55 to 65, 31 per cent.; 65 to 75, 35 per cent.; and over 75, the increased cancer incidence was 45 per cent.

According to Mr. Hoffman's statistics, we find for the year 1910 the average age at death from cancer was 59 years.

For males the average age at death was approximately 60 years and for females 58 years.

During the decade ending with 1911 the cancer death rate for all ages had increased from 65 to 84 per 100,000, population. The cancer death rate for the same time had increased for males 32 per cent., and for females 25 per cent.

The same authority estimates that about 75,000 people die each year in this country alone of cancer. Of these approximately 30,000 are from cancer of the stomach and liver; 12,000 of the female generative organs; 10,000 of the intestines including the rectum; 7,000 of the breast; and the remainder among the other organs.

For the different organs the average age at death was, for the mouth, 63; the stomach and liver, 61; the intestines and rectum, 58; female generative organs, 54; the breast, 58; the skin, 68; and of the other parts not mentioned, 57.

The death rate for the last five years was for London, 94; Paris, 109; Berlin, 107; Philadelphia, 86; Boston, 107; Chicago, 78; per 100,000 population. While for New York the rate was 86, as against 24 fifty years ago. In fact there has been a steady increase of cancer in every location of the body except the skin.

In the last report of the Michigan board of health there is contained a brief analysis of the cancer statistics for that state. In men, 52 per cent. were cancer of the stomach and liver; 12 per cent. the intestines and rectum; 8 per cent. of the

skin; 7 per cent. of the mouth: In women, the percentage was for the generative organs, 34; the breast, 14; intestines, 8; the skin, 3; the mouth, 2; the stomach and liver, 34.

The proportion of deaths from cancer, to deaths from all causes at the different age periods was as follows:

From 20 to 25 one death in every 125 was from cancer.

From 25 to 30 one death in every 75 was from cancer.

From 30 to 35 one death in every 36 was from cancer.

From 35 to 40 one death in every 16 was from cancer.

From 40 to 45 one death in every 11 was from cancer.

From 45 to 50 one death in every 8 was from cancer.

From 50 to 55 one death in every 7 was from cancer.

From 55 to 60 one death in every 6 was from cancer.

From 60 to 65 one death in every 7 was from cancer.

From 65 to 70 one death in every 9 was from cancer.

From 70 to 75 one death in every 11 was from cancer.

From 75 to 80 one death in every 16 was from cancer.

From 80 and over one death in every 29 was from cancer.

A recent correspondence in the British Medical Journal, from a rural practitioner, records 17 cases of cancer along a stretch of road 4 miles long, occurring within the last five years.

CANCER INCIDENCE IN ANIMALS.

Cancer is found throughout the animal kingdom. Malignant disease and tumor formations are found in mammals, birds, frogs, and down to the marine fish living in a state of nature.

Cancer formations occur not only on the surface of the body in the lower vertebrates, but also in the internal organs, e. g., an adenocarcinoma of the kidney in the frog, adenocarcinoma of the liver in the trout, while the mouse family is so susceptible to cancer that extensive use has been made of this animal for experimentation in cancer transmission. Cancer of the breast is very pre-

valent in the mouse, and well defined cancerous conditions have been found in the stomach, intestines, pancreas, ovary, liver, lung, skin and sebaceous glands in the same animal. Also sarcoma of the kidney, osteochondrosarcoma, melanoma and lymphosarcoma.

Some animals are much more susceptible to cancerous growths than others. In using animals for experimentation, rats and mice were chosen because they were naturally subject to the disease and could be obtained by the hundreds at a small cost. Other available laboratory animals, such as the rabbit and guinea pig, are not used because they possess a greater natural immunity to cancer.

As pointed out by Dr. Peyton Rous, of the Rockefeller Institute staff, chickens are even more the victims of cancer than rodents; every barnyard having its subjects.

The details and significance of animal study of cancer will be considered in another of these articles.

The observations made through animal experimentation agree with medical, surgical, and pathological experience in the human subject, and prove how secure is the basis afforded by attempts to apply the results obtained by studying the disease in mice, to the disease as it is met in man.

Even epidemics of cancer are seen among animals. Cancer may be propagated in fish by placing healthy fish in pools occupied by other fish having the disease. Epidemics among cattle have been noticed. Rats have been infected by being placed in cages with diseased rats.

Immunity in animals seems to become less, the nearer the type comes into the immediate association with civilized man. Little regard is displayed by the cancer incidence for those species subsisting on animal or vegetable diet, both are equally affected.

ON A CASE OF BILATERAL HOMONYMOUS HEMIANOPSIA, WITH ALEXIA AND AGRAPHIA, AFTER LABOR. Endelman, Leon, Warshau. (*Archiv. für Aug.*, 71, p. 177.) A woman, aged 32, without constitutional affections, suddenly became blind after being delivered of triplets. Gradually some improvement took place, leaving complete right-sided, and incomplete left-sided, homonymous hemianopsia, with wrong projection and faulty conception of the size of objects, amnesic aphasia, alexia and agraphia, and visual hallucinations. The preserved visual field had the shape of small central islets. The ophthalmoscopic condition and pupillary reaction being

normal and other symptoms wanting, there were in the opinion of E. only two possibilities with regard to the etiology, viz., thrombosis of the cerebral arteries or encephalitis from auto-intoxication during the puerperal state. The marked psychical symptoms seemed to favor the second surmise. The affection was, according to the symptoms, localized in the parieto-occipital lobe and the left angular gyrus, the center for letters. The alexia alone could be attributed to a lesion of the white subcortical substance, but the simultaneous agraphia indicated that also the cortex was affected and that it was a cortical alexia. In similar cases of Bauer, Chevallereau, and Meyer, the labor was of greatest importance for the origin of the disease, but the immediate causes of the cerebral affection varied, viz., nephritis, acute anemia of some portions of the brain after profuse hemorrhages, and the assumption of an embolic process in the brain. The faulty appreciation of the size of objects and the wrong projection were explained by disturbance of the constant relation between centripetal excitation and cortical perception of motion by the hemianopsia.

C. ZIMMERMANN.

ON NEURO-RELAPSES AFTER SALVARSAN. Wernke, Th., Odessa, (*Zeitschrift für Augenheilkunde*, 29, May, 1913, p. 434), reports 10 cases of optic neuritis or neuro retinitis, after injections of salvarsan, of which at least nine were most likely in connection with salvarsan. The specific action of mercury spoke for the leucic character of these relapses. Since the introduction of salvarsan no certain case of neuritis has been observed after mercurial treatment, so that the frequency of the neuro-relapses after injections of salvarsan cannot be merely accidental. For this connection spoke also the following fact: In the summer of 1912 a death was observed after an injection of salvarsan at Odessa. Since then injections of salvarsan were almost entirely discarded and no case of optic neuritis has been observed, nor one after mercury. The author emphasizes that in spite of this influence of salvarsan no proof is needed, that salvarsan acts well and rapidly in many severe cases and frequently surpasses mercury. In ordinary cases it will not replace mercury and iodine, but will be used in failure or intolerance of the old specifics and in severe affections, in which no time is left for awaiting the effect of mercury. Salvarsan is no substitute for mercury, but an excellent ultimum refugium. A case of parenchymatous keratitis and a case of paralysis of the abducens are reported, in which salvarsan had no effect, whereas a case of syphiloma of the ciliary body healed after injection of salvarsan in a time, in which mercurial treatment certainly would have done the same.

C. ZIMMERMANN.

XANTHOPSIA FROM ABUSE OF SANTONIN. Yamaguchi, H., Tokio. (*Klin. Mon. für Aug.*, 51, II., July, 1913, p. 46.) The maximal dose of santonin is 0.10, per day 0.30. The patient, a man, aged 38, took the first day 0.10, and in the next 4 days 0.40, followed by xanthopsia which lasted unusually long, viz., 37 days.

C. ZIMMERMANN.

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EDITORIALS

THE CANCER PROBLEM.

In a recent address at Baltimore, Dr. J. C. Bloodgood of that city said:

"In the year 1913 in the registered areas of the United States 75,000 persons died of cancer. As the unregistered area is large, the number of deaths must be much greater than 75,000.

"In adults after the age of 40 cancer is one of the most frequent causes of death. Now that tuberculosis has, to a certain extent, been controlled, some statisticians claim that cancer is the more frequent cause of death in persons over 40.

"But we can safely say that if the public is educated in regard to the facts about cancer its annual mortality will be reduced at least one-half, perhaps two-thirds. We should educate ourselves to fear the beginning of cancer rather than wait for its late stages. In all forms of cancer fear of the disease comes too late. But fear at the first appearance of any suspicious sign will be of great value. This fear will induce patients to seek advice and treatment in that early stage in which the chances of a cure are best, even up to 100 per cent."

To bring home to ourselves the meaning of this conservative statement let us try to realize that the kind of public education of which Dr. Bloodgood speaks would mean the saving of from one thousand to two thousand lives *every year in Wisconsin alone.*

When we think of that fact the magnitude of the cancer problem and the urgent claim it should

make upon our attention will be universally admitted.

At the last meeting of the State Medical Society a committee was appointed to study the situation with regard to cancer in Wisconsin. In undertaking a study of this kind the first thing to do is to define the problem—to find out what it is, where it is, and how big it is.

This committee is now getting to work and before this time most of our readers will have received the blank form on which reports are requested. It is hoped that the members of the State Medical Society will co-operate in this work by sending in as full reports as possible and by sending them in promptly. Just remember that the Committee is not doing this work out of idle curiosity. They are doing it because they were ordered to do it by the State Medical Society—that is, by you and by me. It is our work, and we have asked them to do it. Therefore, let us do our individual shares in helping to make the study a complete one, by seeing to it that our reports are not forgotten.

The statistics of the State Board of Health give a certain amount of information regarding the mortality from cancer, but even this is misleading, for the death rate is bound to appear higher in those places where hospitals are located, even though the actual incidence of the disease may be no greater there than elsewhere in the State.

A glance at the report blank sent out by the committee will show that a considerable part of the information desired can be obtained only through the family physician. Filling out these

blanks takes time and trouble. The man in general practice has little time and plenty of trouble already, *BUT* this is a *big problem* and it must be handled in a *big way*. If every physician will do his share we shall have some statistics which will be worth something and we shall have made a start to try to save the lives of those fifteen hundred men and women who are dying unnecessarily in Wisconsin every year. Is that worth while or not? If you think it is, see that your report goes in, even though it may take time to make it complete.

THE EUGENIC MARRIAGE LAW IN ACTION.

It is a debatable question whether the members of the medical profession ought to laugh or to weep over the performance of the Milwaukee physician who filled out a eugenic marriage certificate for the girl who has masqueraded for nearly ten years as a man under the name of Ralph Kerwineio, and enabled her to secure a license and to marry in due form another girl, whom, temporarily at least, she seems to have deceived as completely as she had the physician.

What better demonstration of the utter futility of the law in its present form could possibly be devised?

Without in the least attempting to justify or to explain the action of the physician who issued the certificate, it seems to the writer that such conduct is a natural result of the present situation.

A law is passed which definitely asks the general practitioner of medicine to swear to things which he cannot possibly find out with the means at his command; then comes the interpretation of the law by the Attorney General which says, in effect, that no law can ask impossibilities and that therefore it must be a misunderstanding of the law to think that its demands are impracticable. The net result is a feeling of helplessness followed by indifference on the part of the medical profession; and in some quarters, at least, a degeneration of the examination into a mere perfunctory formality.

This is a deplorable situation which can result only in further demoralization, and it is to be hoped that the Supreme Court may be able to come to our rescue in the near future.

FURTHER REPORT ON FRIEDMANN "CURE."

The following report would seem to indicate that the further study of the Friedmann vaccine is confirming the unfavorable opinion of this remedy which has been held pretty generally by the medical profession since its first appearance.

Special Cable Dispatch.

BERLIN, May 14.—Professor Karewski informed the Berlin Medical Society last night that the conclusions he had reached at the end of a long series of experiments with Dr. F. F. Friedmann's tuberculosis "cure" were as follows:

First. The method is not harmless, though Doctor Karewski had no deaths to report.

Second. It produces no cures. Only one out of 54 cases treated revealed any apparent benefit.

Third. The method is in no way preventive.

Fourth. It cannot be described as a means of strengthening a tubercular patient's system.

Fifth. The Friedmann preparation offered for sale is frequently unclean.

FRIDAY THE NINTH.

October 9th, the last day of the coming session of the state medical society, will be "something different". This has always been a problem—"What can we do to keep the members over for the last day's program?" We believe we have solved the question and have arranged a program that will insure a full attendance, for it is just a little different from any we have ever had. The secretary has long felt that in missing the county secretary's program, the members were deprived of one of the very best and most interesting parts of the meeting. This year we are going to combine the county secretary's meeting and the general session on the last day. There are to be no scientific papers and the whole time will be given to Ethics, Economics and Organization—not a "pink tea" sort of an affair but a real, live discussion—a discussion free for all, in which the fellow with a canker can get up and tell just what he thinks! This year we are to give one day to subjects dealing with the making of better men, a better, stronger society, the making of better economics. Every member of the society has entertained at some time ideas on this subject. Get them ready and bring them with you prepared to take a part.

As a head-liner, Dr. Victor C. Vaughan, President-elect of the American Medical Association and Dean of the Medical Department of the University of Michigan, will talk on Medical Ideals. Dr. C. R. Bardeen, Dean of the Medical Department of the University of Wisconsin, will tell in

what ways our own university is prepared to help the county society and the individual physician through its laboratories, extension division, lectures, etc. Hon. A. C. Umbreit of Milwaukee, an attorney who has been closely identified with the society's interests, will talk on the legislation to be expected the coming winter and tell what the society and the individual member can do to safeguard the profession and the public. Dr. Alexander R. Craig, Secretary of the American Medical Association, will tell of the work being done by the A. M. A. in its war on all forms of quackery. Dr. W. F. Zierath of Sheboygan, who has made a close study of Medical Economics, and who read a splendid paper at the Waukesha meeting of county secretaries on "The Business Side of Practice", will discuss the subject again.

I have merely mentioned a few of the good things that have been promised and ask that others who have suggestions along these lines or will be willing to discuss a subject under these heads write to me. We are trying to make for better men—bigger men—broader men—for a society strong and united with the highest ideals. The program for the last day will be to this end and we are confident of making it so attractive and so unusual that it will be in many ways the "Big Day".

R. S.

MEDICO-LEGAL BUREAU.

The following letter outlines a new effort on the part of the American Medical Association to make its office of real service, the service that counts. The secretary asks that any member having material of value, send it to Dr. Green.

Dr. Rock Sleyster,
Waupun, Wis.

DEAR DR. SLEYSER:

The Council on Health and Public Instruction of the American Medical Association, has established a medico-legal bureau for the purpose of collecting, arranging and studying all of the available material bearing on medico-legal questions of interest to physicians, or relating to public health matters. This bureau is in charge of Mr. John Hubbard, a graduate of the Northwestern University School of Law. We desire to secure all available material, bearing on medico-legal subjects, especially all pamphlets, bulletins, monographs, circulars, legislative bills, laws, reports, or special articles on any medico-legal or public health topics. As rapidly as material can be secured and studied, we hope to furnish information to all those interested on any topic coming within the range of the bureau. We shall greatly appreciate it, if you will kindly send us, at any time,

any such material that may come into your hands. This will be properly classified, cataloged and preserved for use in answering inquiries on any medico-legal question. We hope to make this bureau of service to the officers and members of state associations, members of committees on legislation, executive officers of state boards of health and medical examining boards and any others interested. Any assistance or contributions will be appreciated and of great assistance in carrying out the plans of the bureau.

With cordial thanks for your many courtesies in the past, and hoping that we may, through this bureau, be of some assistance to you in the future, we remain,

Very truly yours,

FREDERICK R. GREEN,

Secretary,

Council on Health and Public Instruction.

THE COST OF PASTEURIZING MILK.

With a properly designed and properly operated plant, the average cost of pasteurizing milk is \$0.00313 a gallon, and of cream \$0.00634 a gallon, according to tests recently conducted by the U. S. Department of Agriculture. These tests also show that the "flash" process, by which milk is raised to a temperature of 165° F. and kept there for a moment only, is more expensive than the "holder" process, in which milk is maintained for 30 minutes at a temperature of 135° to 145°. The "holder" process requires 17 per cent. less heat than the other, and in addition, there is a saving on the expense of cooling. For hygienic reasons, also, the Department recommends the "holder" process.

Many milk plants and creameries, it was found, do not attempt to make any use of the latent heat in the exhaust steam from their engines and steam driven auxiliaries. This heat would be sufficient, in many cases, for all the pasteurizing done in the plants, if it were properly utilized instead of being permitted to go to waste. When exhaust steam is used, it is calculated that for every 400 pounds of milk pasteurized per hour with it, one horsepower is taken from the boiler load, with a consequent saving in fuel cost.

Another common source of waste was found to be the faulty arrangement of apparatus and leaky piping. The loss from these causes may run as high as 30 per cent. of all the heat required, a loss that can be reduced to negligible proportions by proper arrangement. The use of the regenerator, in particular, by which a large portion of the heat in the pasteurized milk is transferred to the

raw product, is also an important factor in securing maximum economy.

In considering the cost of pasteurizing, the investigators estimated the life of the necessary apparatus at four years, and the annual depreciation, in consequence, was figured at 25 per cent. This is due to the fact that the whole dairy apparatus must be taken apart after each operation in order to give it a thorough cleaning. This necessarily results in rough usage. The mechanical equipment, such as the engine, boiler, shafting, etc., has, on the other hand, been considered as depreciating at the rate of only 10 per cent. per annum.

In these tests the results of which are contained in Bulletin 85, the investigators have confined themselves entirely to the engineering features of pasteurizing, their object being to ascertain as closely as possible the necessary cost of the process. The hygienic and sanitary aspects of the question are covered in other publications of the Department of Agriculture.

NEWS ITEMS AND PERSONALS

DR. O. L. SAPPER has removed from Gresham to Mayville.

DR. R. L. WILLIAMS, house physician at the Johnston Emergency Hospital, Milwaukee, has been appointed first lieutenant in the 1st Field Hospital, W. N. G.

DR. F. J. PFEIFER, of New London, will leave shortly for a trip to Europe.

DR. GEORGE C. RUHLAND has been appointed Health Commissioner of Milwaukee.

DR. E. V. BRUMBAUGH, instructor in bacteriology at Marquette University, Milwaukee, has been appointed city bacteriologist to fill the vacancy caused by the promotion of Dr. G. C. Ruhland.

DR. DAVID MUNRO, Kenosha, has announced his candidacy for sheriff at the coming fall election.

DR. E. CHRISTIANSEN, Manitowoc, has been appointed city physician.

DR. GEORGE POMAINVILLE'S home at Nekoosa was destroyed by fire on April 15th.

DR. GEO. C. ERNST, superintendent of the Blue Mound Sanatorium, Milwaukee, has been placed temporarily in charge of the tuberculosis division of the Milwaukee Health Department.

DR. M. A. BERNSTEIN, Kenosha, was injured though not seriously in an automobile accident on April 15th.

DR. C. A. FABER, Milwaukee, is defendant in a \$2,000 malpractice suit, brought by Joseph Hrubec who alleges that the doctor failed to use antitoxin in the treatment of diphtheria which caused the death of his daughter.

DR. I. D. STEFFEN, Antigo, received slight injuries in a runaway accident on April 15th.

DR. M. P. RAVENEL, professor of bacteriology and director of the State Hygienic Laboratory, University of Wisconsin, has resigned and will take up his work as professor of preventive medicine in the University of Missouri.

LAKESIDE HOSPITAL, Milwaukee, observed the twentieth anniversary of its founding on April 22nd.

The contract for the new Brown County tuberculosis sanatorium has been awarded to Peterson and Eger of Wrightstown, their bid being \$14,667.25.

DEATHS

Dr. Charles Wirth, St. Paul, Minn., a former practicing physician at Plymouth, is dead aged 75 years.

Dr. G. W. Dodge, Menasha, died on April 6th, aged 73 years. He was graduated from the Northwestern University Medical School, Chicago, in 1873, and was well known throughout the Fox River Valley. He was postmaster at Menasha for twelve years.

Dr. William E. Scollard, Milwaukee, died on April 21st, aged 63 years. He was born in Wisconsin and was educated in the public schools of Milwaukee, the Milwaukee Academy and the Whitewater Normal school. After teaching for a time he became professor of civics and mathematics in Pio Nono Normal School at St. Francis, and continued in this position for two years. He then studied medicine with Dr. Solon Marks, and was graduated from Rush Medical College in 1882. He had practiced in Milwaukee for thirty-two years. He was a member of the Milwaukee County, State Medical and American Medical Associations.

THE AMERICAN SOCIETY FOR PHYSICIANS'
STUDY TRAVELS.

1225 Spruce Street,
PHILADELPHIA, PA., U. S. A.

PRESIDENTS:

DD. JAMES M. ANDERS, Philadelphia, Pa.
DR. WILLIAM J. MAYO, Rochester, Minn.
DR. LEWELLYS F. BARKER, Baltimore, Md.
DR. RUDOLPH MATAS, New Orleans, La.

SECRETARY GENERAL:

DR. ALBERT BERNHEIM, Philadelphia, Pa.

DEPARTMENT DIRECTORS:

Finances, DR. L. WEBSTER FOX.
Publicity, DR. ALFRED STENGEL.
Postgraduate Work, DR. LUDWIG KAST, New York.
Travel Manager, DR. E. E. MONTGOMERY.
Travel Recorder,

April 18th, 1914.

MY DEAR EDITOR:—

The American Society for Physicians' Study Travels will make its first tour immediately after the close of the next meeting of the American Medical Association, starting from Atlantic City, June 26th. The complete itinerary can be obtained upon application to the Secretary, Dr. Albert Bernheim, 1225 Spruce Street, Philadelphia, and it will be found to promise an interesting, pleasant and profitable outing to all participants. The objects of the newly-formed organization are in the main to afford an opportunity to make the best use of one's vacation, time and money, in seeing cities and health resorts, and gaining practical knowledge of their institutions—medical, historical, and municipal—as well as to attend clinics, demonstrations, lectures, illustrated with lantern slides, and public addresses.

In addition, however, many sight-seeing trips have been arranged for, and the path of the Society lies by rail and water through a section of this country and Canada abounding in picturesque, sylvan, and grand scenes, so that the tourist, whatever his individual taste, will enjoy the advantages of healthful recreation en-route. It is believed that American physicians and their wives will appreciate the benefits of these tours, which have become so popular, both in Germany and France, where they are undertaken even more than once annually.

Early bookings, through the Secretary, are urged, in order that satisfactory accommodations can be secured for all who desire to participate.

Very truly yours,

ALFRED STENGEL.

TO THE MEMBERS OF THE AMERICAN SOCIETY FOR PHYSICIANS' STUDY TRAVELS AND TO ALL THOSE INTERESTED IN OUR FIRST ANNUAL STUDY TRAVEL TOUR OF JUNE 26TH TO JULY 16TH, 1914:

We take pleasure in sending you as a supplement to the Prospectus First Annual Tour, a program for Special Postgraduate Work as arranged by the local Committees of the places the Society will visit. From the program you will readily anticipate what a delightful trip you will have before you. The distance which you

will transverse is 1654 miles by rail and 416 miles by water, total 2070 miles. Whether you live east, west, north or south, of Atlantic City, the ticket you buy for the Atlantic City Meeting will readily fit into the ticket for the First Annual Study Travel Tour. Write about information.

You must remember that we will have to restrict the number of participants in our trip, therefore, send in your name for enrollment at once.

Cost of Trip for each participant, \$180.00.

THE COMMITTEE.

Thursday, June 25th—Meeting of the General Committee in Atlantic City.

Friday, June 26th—Leave Atlantic City for Philadelphia.

Meet the party upon arrival at Chestnut Street Ferry with sight-seeing cars and convey them to Independence Hall, thence to the Curtis Publishing Company, remaining at both points for about a half-hour each, then to the Bellevue-Stratford Hotel for luncheon. Leave the Bellevue-Stratford Hotel 2:00 P. M., taking in the following points:

Up Broad Street.	Girard Avenue.
City Hall.	Girard College (stop).
Widener Home (stop).	Washington Monument.
Germantown.	United States Mint.
Wayne Avenue.	Baldwin Locomotive Works.
Lincoln Drive.	Down Broad Street to Hotel.
Fairmount Park.	

Friday—9:00 P. M.—The members invited to a reception by the Medical Club of Philadelphia at the Bellevue-Stratford. The ladies will be the guests of the B. F. Keith Company at Keith's Theatre, Chestnut and Twelfth Streets.

Saturday—8:15 A. M.—Leave Bellevue-Stratford Hotel. Short walk east on Walnut Street to buildings of the Jefferson Medical College, northwest corner of Tenth and Walnut Streets. arrive 8:30 A. M.

8:30 A. M. to 9:00 A. M.—(a) Inspection of College Library and Portrait Gallery (entrance on Walnut Street) and new Teaching Museum; in the latter will be arranged an exhibition of a group of lungs showing various stages of pulmonary tuberculosis; demonstration by Dr. Coplin. (b) Those preferring will be shown through the New Jefferson Hospital (entrance on Tenth Street), a model, modern, fire-proof institution; visit to the roof gardens.

9:00 A. M. to 10:15 A. M.—Members of the Hospital Staff have arranged to be present. Preliminary to the visit a special effort will be made to assemble groups of interesting cases. In small groups, visiting physicians may attend ward and operating room demonstrations by

Dr. H. A. Hare.	Dr. E. E. Graham.
Dr. E. E. Montgomery.	Dr. S. MacCuen Smith.
Dr. Edward P. Davis.	Dr. D. Braden Kyle.
Dr. F. X. Dercum.	Dr. John H. Gibbon.
Dr. J. Chalmers DaCosta.	Dr. Francis T. Stewart.
Dr. Howard F. Hansell.	Dr. Thomas McCrae.
Dr. Henry W. Stelwagon.	Dr. Hiram R. Loux.
Dr. H. Augustus Wilson.	

10:15 to 10:45 A. M.—Medico-Chirurgical College and Hospital. Dr. Joseph McFarland, "Demonstration of Pathologic and Parasitic Specimens."

10:45 to 11:30 A. M.—Dr. T. H. Weisenburg, "Nervous Diseases" illustrated by moving pictures.

10:15 to 11:45 A. M.—Clinics by Drs. W. L. Rodman, Ernest Laplace, W. Easterly Ashton, L. Webster Fox and George M. Boyd.

12 to 1 P. M.—University of Pennsylvania—University Museum.

1 to 2 P. M.—Luncheon at Houston Hall as the guests of the Trustees of the University of Pennsylvania.

2 to 2:15 P. M.—University Dormitories.

2:15 to 2:45 P. M.—New Medical Laboratories.

2:45 to 4 P. M.—Clinics by the following gentlemen:

Dr. John G. Clark, Gynecology.

Dr. C. H. Frazier, Surgery.

Dr. Alfred Stengel, Medicine.

Dr. William G. Spiller, Neurology, at the Philadelphia General Hospital, 34th and Pine Sts.

4:15 P. M.—Leave for Willow Grove by special trolley.

6:30 P. M.—Willow Grove—Dinner.

Special program will be provided for the ladies of the party.

Sunday, June 28th—Afternoon—Through courtesy of James Robinson, Superintendent of Police, a boat trip on the Delaware River to League Island Navy Yard, for inspection, and return.

WHITE HAVEN.

Monday, June 29th—Arrival, 12:05 P. M. Luncheon at the Sanatorium. Address by Dr. Lawrence F. Flick, "The Sanatorium Treatment of Tuberculosis." Inspection of the buildings.

BUFFALO.

Tuesday, June 30th, to Wednesday, July 1st—Trip to or boat through the harbor and Buffalo Creek, to see elevators, etc. Automobile ride through some of the parks, stopping at Historic Society Building, where there are Indian relics and other historic material. Trip across the Niagara River to old Fort Erie (War of 1812 and French and Indian War), including observations of prehistoric Indian villages. On the way to the Falls some historic sights of interest; chimney of Ft. Schlosser, dating before French and Indian War.

New York State Institution for Malignant Diseases; clinics can be arranged.

NIAGARA FALLS.

Wednesday, July 1st, to Thursday, July 2d—Visit of the Falls at moonlight; visit to islands. Hon. Peter A. Porter, speaker. Dr. Benedict will be glad to accompany to Lewiston.

TORONTO.

Thursday, July 2d, and Friday, July 3d—Visit to medical-scientific institutions and hospitals.

Saturday, July 4th—Alexandria Bay, Thousand Islands.

MONTREAL.

Sunday, July 5th, and Monday, July 6th—Visit to medical-scientific institutions and hospitals.

QUEBEC.

Tuesday, July 7th, and Wednesday, July 8th—Visit to medical-scientific institutions and hospitals.

Wednesday, July 8th, and Thursday, July 9th—Fabyans, White Mountains. Addresses and scientific lectures by members.

PORTLAND.

Thursday, July 9th to 10th.

Friday, July 10th—Sail around Portland Harbor; visit to the Maine General Hospital and Children's Hospital; visit to Longfellow's birthplace; Eastern and Western promenades. Luncheon.

BOSTON.

Saturday, July 11th—Dr. Horace W. Arnold, Dean of Graduate School of Medicine, Harvard University, will arrange a program.

SARANAC LAKE.

Sunday, July 12th—Arrival, 12:30 P. M.

1 P. M.—Luncheon at the Boys' Club.

2 P. M.—Choice of trips on river or lake, or by automobile to Lake Placid or Saranac Inn. Inspection of Adirondack Cottage Sanatorium, Raybrook (State Sanatorium), Saranac Lake Laboratory, Reception Hospital.

6:30 P. M.—Dinner at hotel.

8 P. M.—Short addresses on the experimental study of immunity in tuberculosis, various phases of the diagnosis and treatment of pulmonary diagnosis, by Drs. Baldwin, Krause, Kingston, Brown, and others.

SARATOGA SPRINGS.

Monday, July 13th—6:40 A. M., Arrival at Saratoga Springs. Committee of the Saratoga Springs Medical Society meets the visitors at the railroad station. Transfer to United States Hotel. Breakfast.

10 A. M.—Conducted tour by automobiles through the Mineral Springs Reservation of Saratoga Springs.

1 P. M.—Luncheon at the hotel.

3 P. M.—Meeting in the United States parlors. Address of welcome by the President of the village, Hon. Joseph M. Kelley. Response, "History of Saratoga Springs and its Mineral Springs," Hon. Charles C. Lester. "Physiological Action of the Mineral Springs Water," Dr. John F. Humphrey. "Saratoga Mineral Springs Reservation." Hon. George Foster Peabody. Saratoga Mineral Springs Reservation, illustrated by lantern slides, Dr. Albert Warren Ferris.

5 P. M.—Reception by Dr. and Mrs. Douglas C. Moriarta, at their residence.

7 P. M.—Dinner at the hotel.

9 P. M.—Reception to the visitors and their ladies at the Saratoga Springs Club.

Tuesday, July 14th—Boat on the Hudson from Albany to New York.

NEW YORK.

Wednesday and Thursday, July 15th and 16th—Visit to hospitals and clinics. Research substitutes will be arranged.

The program as given in the Prospectus, in regard to general sightseeing tours, will be additional.

THE STATE MEDICAL SOCIETY OF WISCONSIN

ORGANIZED 1841

Officers 1913-1914

CHARLES S. SHELDON, Madison President

C. A. EVANS, Milwaukee 1st Vice President

C. J. COMBS, Oshkosh 2nd Vice President

EDWARD KINNE, Elkhorn, 3rd Vice President

ROCK SLEYSER, Waupun, Secretary

S. S. HALL, Ripon, Treasurer

Councilors

TERM EXPIRES 1917

1st Dist., M. R. Wilkinson - Oconomowoc
2nd Dist., G. Windesheim - Kenosha

TERM EXPIRES 1919

5th Dist., W. F. Zierath - Sheboygan
6th Dist., H. W. Abraham, - Appleton

TERM EXPIRES 1915

9th Dist., T. H. Hay - Stevens Point
10th Dist., R. U. Cairns - River Falls

TERM EXPIRES 1918

3rd Dist., F. T. Nye - Beloit
4th Dist., W. Cunningham - Platteville

TERM EXPIRES 1914

7th Dist., Edward Evans, - La Crosse
8th Dist., T. J. Redelings - Marinette

TERM EXPIRES 1916

11th Dist., J. M. Dodd - Ashland
12th Dist., H. E. Dearholt - Milwaukee

Delegates to American Medical Association

L. ROCK SLEYSER, Waupun

J. J. McGOVERN, Milwaukee

J. M. DODD, Ashland

Alternates

W. T. MURPHY, Waukesha

F. T. NYE, Beloit

J. F. PEMBER, Janesville

Committee on Public Policy and Legislation

J. P. McMAHON, Milwaukee, Chairman

A. G. SULLIVAN, Madison

F. F. BOWMAN, Madison

Committee on Medical Defense

G. E. SEAMAN, Milwaukee, Chairman

S. S. HALL, Ripon

A. J. PATEK, Milwaukee

Committee on Prevention of Tuberculosis

M. P. RAVENEL, Madison

J. M. BEFFEL, Milwaukee

G. E. SEAMAN, Milwaukee

T. H. HAY, Stevens Point

C. A. HARPER, Madison

Program Committee

W. F. ZIERATH, Sheboygan

EDWARD EVANS, La Crosse

C. S. SHELDON, Madison

Committee on Arrangements

H. W. MORGENTHAU, Oshkosh, Chairman

NEXT ANNUAL SESSION, OSHKOSH, OCT. 7-9, 1914.

The Wisconsin Medical Journal, Official Publication

LIST OF EXECUTIVE OFFICERS OF COUNTY MEDICAL SOCIETIES.

Table with 3 columns: County, President, Secretary. Lists medical societies across Wisconsin counties with their respective officers.

SECRETARY'S NOTES

BORAX AND WAMPUM.

There is an old saying about "all work and no play". Every time I see a county secretary laboring manfully to collect the dues from members who intend to pay but are too indifferent to even answer his appeals my heart goes out to him. Occasionally he jokes good-naturedly about it and I can see his patient smile in his letters. Too few of us realize how thankless is the work of a county secretary and how trying. He is the prince of good-fellows, so help in every way to make his work easier and pleasanter. Here are two classics gleaned from my mail:

"Dear Doctor:—

Forbear with me a while longer and we will send the report in. If you will look on the map you see that . . . County is small. We have only 20 physicians—and (this for yourself) they are pretty hard to manage and keep in line. I compare myself to the man in the familiar picture driving the Borax 20 Mule Team. After all they are not as fierce as they imagine. I have seen them all together and a mighty good lot if rightly handled, but they will kick over the traces once in a while."

This from a man who had sent me fifty cents too much:

"Dear Doctor:

. . . We live up here in the natural habitat of the 'medicine man' and the 'bone setter'. Our business methods are something like theirs but we get there just the same. If we haven't the cash to pay our dues we pay in potatoes or 'wampum'. So you are playing safe with . . . County. If you don't send along that fifty cents within a decent time we will draw on you for a half bushel of onions!

Yours in faith, hope and charity."

We sent the fifty cents and we haven't had to accept wampum as yet. Lord bless the driver of the "borax" team and the "Wampum" man. More power to 'em!

R. S.

TO OUR READERS.

Half the members of the Association have paid their dues to the county secretary. They are all right and will be in good standing for 1914. As

long as practically every member will pay the dues some time during the year, why not pay now and not be dropped from the roll at all. Take your own case for example: Suppose you should be sued for malpractice some time in the next week or two; of course, if you are guilty of malpractice it would make no difference to you, but just suppose it is one of these ordinary, unjust blackmailing suits brought for a contingent fee by a shyster lawyer. If you are in good standing you would be defended against this sort of suit and unless your dues were paid, you would not be. Wisconsin has the best lot of doctors in the world and we want to show to other states that we are a model for promptness in the payment of our obligations as well as in the services rendered for the common good. Remember that your county secretary is paid nothing for making these collections. He is doing your work for you simply because you have elected him to and it is not fair to him to make him devote the extra time necessary to dun and re-dun every member or even any member. Please pay your dues today.

SOCIETY PROCEEDINGS

DODGE COUNTY

Dodge County Medical Society met at Waupun April 30th. Meeting was called to order by the president, Dr. Sears, at noon, the following members being present: Drs. Holtz, Webb, McDonnell, Clark, Smith, von Hengel, Krahn, North, Hayes, Bachhuber, Elliott, Sleyster, Hall of Ripon and Connell of Oshkosh. Minutes of the previous meeting read and approved. The Board of Censors reported favorably on the application of Dr. Skwor of Neosho, and he was elected to membership. Moved and seconded that Dr. E. M. McDonnell of Beaver Dam be reinstated upon payment of his dues. Carried. A communication from Dr. Nelson Black, in regard to lectures to be given by various eye men before women's clubs, on the care of the eyes and their conservation, was read, and it was moved and seconded that the secretary communicate with Dr. Black in regard to securing a man to speak at Beaver Dam. Carried.

The treasurer's report was read and referred to the following committee appointed by the president: Drs. Bachhuber, North and Smith, to act as auditing committee. The auditing committee reported accounts correct and it was accepted.

A clipping from a Beaver Dam paper in regard to free medical inspection of schools by Dr. B. C. Tarnutzer of Beaver Dam, was read and severely criticized as unethical and written for the purpose of deceiving, and gaining votes. It was moved and seconded that this clipping be made a part of the minutes for future refer-

ence. Meeting adjourned at 1:30, after which the members were the guests of Dr. Sleyster for luncheon.

At the afternoon session Dr. Gregory Connell of Oshkosh read an interesting paper on "The Chronic Abdomen." The election of officers then followed resulting as follows: A. E. Bachhuber, Mayville, president; Dr. Holtz then moved that the usual rules be suspended and that the retiring president be elected as vice-president. Dr. Elliott was elected secretary and treasurer, and Dr. Hoyer as censor for three years to succeed himself. Dr. Sears made a motion that the next meeting be held at Beaven Dam, that the subject be Public Health and Sanitary Inspection of School Children, and that the school teachers be invited to attend. Dr. Sleyster suggested that Dr. Barth of Milwaukee be invited to address the Society at that time. Meeting adjourned.

E. S. ELLIOTT, M. D., *Secretary*.

IOWA COUNTY

The Iowa County Medical Association met on April 23rd at the new St. Joseph's Hospital in Dodgeville, where they were the guests of the hospital. Officers were elected for the ensuing year as follows: president, Dr. W. J. Pearce, Dodgeville; vice-president, Dr. McCallister, Avoca; secretary and treasurer, Dr. H. D. Ludden, Mineral Point.

KENOSHA COUNTY

The regular meeting of the Kenosha County Medical Society was held at the home of Dr. G. A. Germano, Kenosha, on April 2nd, 1914. Dr. Frank S. Churehrl of Chicago addressed the meeting on "Some Aspects of Wet Nursing."

A. J. RANDALL, *Secretary*.

The regular meeting of the Kenosha County Medical Society was held at the home of Dr. H. A. Robinson, on Friday evening, May 1st. Dr. E. A. Fletcher of Milwaukee read a very instructive and interesting paper on Renal Tuberculosis.

After the meeting refreshments were served.

A. J. RANDALL, M. D., *Secretary*.

MILWAUKEE OTO-OPHTHALMIC SOCIETY

At the meeting of the Milwaukee Oto-Ophthalmic Society on March 17, 1914, Dr. P. H. Dernel presented an interesting case of eborioiditis. Dr. S. G. Higgins made a report on recent observations from the clinics of Europe. Dr. G. I. Hogue made a report on a recent visit to the clinics of New Orleans, New York, Philadelphia and Washington.

Meeting of April 21st.

At the regular meeting of the Milwaukee Oto-Ophthalmic Society held April 21, 1914, at which 16 members and 4 guests were present, Dr. C. J. Coffey presented an interesting case of Herpes Zoster Ophthalmicus. Dr. G. I. Hogue presented a patient with an unusual cataract operation. Dr. H. B. Hitz made a report on four recent mastoid operations with complications. Dr. F. Pfister gave a translation of Beraney's latest discoveries.

G. I. HOGUE, M. D., *Secretary*.

RETINITIS FROM GLARING DURING THE OBSERVATION OF THE ECLIPSE ON APRIL 17, 1912. Boehm, K., (From the Eyeclinics of Prof. W. Uhthoff at Breslau and Prof. Th. Axenfeld at Frieberg. *Klinische Monatsblätter für Augenheilkunde*, 51, I, April, 1913, p. 471), gives a very complete statistical synopsis of the ocular lesions from glaring by the sun, reported in the provinces of Silesia and Posen by Prof. Uhthoff, and those collected by Prof. Axenfeld, with consideration in detail of 26 cases observed at the clinic of Prof. Uhthoff and 26 at the clinic of Prof. Axenfeld, altogether 412 cases. The method of observing the eclipse, ophthalmoscopic condition, clinical symptoms, visual field, course, are arranged in tables. The ophthalmoscopic changes were chiefly limited to the macular region. B. emphasizes that changes of the macula are in general difficult to interpret, because slight pathological alterations are frequently hard to distinguish from normal variations. With regard to the view of some authors, that the crescentic foveal foci of the macula are direct optograms of the sun he quotes the statement of Uhthoff, that it is utterly impossible, that the glaring, and directly damaging, action of the sun can be expressed in a so well defined figure. The changes are, according to most authors, due to an exudation, circumscribed hyperemia of the choroid, changes of the pigmented epithelium, greater pigmentation of the macula, and destruction of the sensory epithelium.

The prognosis of the macular changes is relatively favorable, as they may partly or completely subside. In some cases conjunctivitis was observed. The clinical symptoms consisted in burning and stinging sensations in the eye, headache, flickering and impairment of vision. The central scotomas were mostly positive, sometimes negative, their form showed no relation to the shape of the disc of the sun, at the moment of glaring.

The small central scotoma is one of the most characteristic phenomena of glaring by the sun. Although especial attention was paid to the detection of ring scotoma, B. could not find it in any of his cases.

In general the central retinitis terminates favorably. The positive scotoma became smaller, the dark spot lighter and its borders more indistinct. Fifty-three cases healed completely, in the remaining the disturbances diminished, but did not entirely subside. A few were severely and permanently injured. The refraction seemed to have some influence on the occurrence of the retinitis by glaring. Most patients were emmetropic or slightly hypermetropic. Metamorphopsia was observed in some cases. According to Aibaret micropsia or macropsia occurs, if the nervous elements of the retina at the macular region undergo a regular displacement, metamorphopsia, if they undergo an irregular displacement. In one case a uniform diminution of the color sense was noted.

C. ZIMMERMANN.

