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AN ADDRESS IN MEDICINE.

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MR. PRESIDENT AND GENTLEMEN:—The honor which you conferred in appointing me to prepare the address on medicine for the present session carries with it great labor and serious responsibility. The ideal address on medicine should contain not only a *résumé* of the progress made and the new discoveries announced in the different branches of our science during the previous year, but it should also contain a critical examination of the statements made and the theories advanced in each department of medicine, so that the chaff can be winnowed from the wheat, and our knowledge strengthened by the addition of valuable truths and the rejection of worthless statements and visionary theories. This task, which would not be easy under any circumstances, has been increased to a formidable degree during the past four years by the overgrowth of modern specialism. Indeed specialism has developed in a comparatively short period from the necessary and legitimate consideration of diseases of the eye and ear, and one or two other organs, into a monstrous incubus which casts a shadow over every department of medicine.

It would be the height of folly to deny that all the advances in medicine are the result of clinical observation and experimentation combined with thorough investigation of the functions of the different organs of the body, and the manner in which those functions are modified in health and in disease by various therapeutic agents, but no real addition to our knowledge has been, or can be made by the purblind specialist who attributes all the ills of humanity to a derangement of the organ which he has made his study. He is the bane of modern medicine. The antidote is to let him alone severely. Not understanding or not appreciating the fact that the bond of sympathy, between every organ of the body is so close that when one is affected all of the rest suffer, he contributes little to the general fund of information, but a multitude of words which are intended to magnify himself and mystify his hearers. Emboldened by the tolerance with which he has been received, he has become so arrogant as to assume that the medical wisdom of all the ages is centered in his person, and that he is the master and not merely

the supernumerary of the profession. I trust that this absurd delusion will soon be dispelled and that the practitioners of this State and country will arouse to the necessity of checking the further growth of this excrescence on the body politic.

The thoughtful, reading, busy country practitioner is fully competent to treat and cure any curable affection, and if a cure be impossible, the patient's sufferings can be alleviated, and his life prolonged just as well and as scientifically at home as in New York, Philadelphia, or Boston. The successes of the specialists are heralded to the world; their mistakes and their failures are passed over in silence. No two trees in a forest are of exactly the same size, and there are, and always will be physicians, who are preëminent among the prominent of the profession, but the assertion that there are any diseases which the general practitioner should not attempt to treat is contemptible and untrue. In fact the arrogance of modern specialism is frequently surpassed by its ignorance. It is only a short time ago since one of the most pretentious of New York specialists argued violently that the respiration in croup is slower than normal. Country practitioners who have seen children panting for air, while their respirations rose to 50, 60, 80, and 90 per minute can see from this that overbearing egotism does not always imply intellectual superiority. Many other instances might be referred to, such as exsecting a rib for an imaginary empyema, opening the gall-bladder in search of gall-stones that existed only in the mind of the operator, the barbarous and useless castration of women, and similar outrages. Suffice it to say that the columns of the current medical journals contain ample evidence of the ability of the general practitioner to meet all emergencies, and show that the claim of superior intelligence on the part of the specialist is utterly unfounded. The glory of American medicine does not rest upon the inherited qualities of any one man or set of men, but upon the learning and skill of the medical profession of the entire country.

The most practical observations on medical physiology which have appeared during the year are those of Alexander Harkin, of Belfast, in which he directed attention to the many disorders of the genital organs which are produced by congestion of the medulla oblongata. If Dr. Harkin's admirable observations on this subject were carefully studied by modern gynecologists the present craze for castrating women would speedily subside. Dr. Harkin has also called attention to the depression of the sympathetic nerv-

ous system in cholera, and the necessity of adopting measures to counteract that depression.

Dr. Isaac Ott, of Easton, Pa., began a series of investigations some time ago to ascertain what relation the nervous system bore to the production of heat and the maintenance of the temperature of the body. These researches are not finished yet, but enough has been ascertained to indicate the existence of heat centres in the cerebrum, and that they are situated in the anterior portion of the optic thalamus or in the cortex surrounding the corpora striata.

A curious case reported by M. Tarchanoff is that of a medical student who possesses the power of retarding and accelerating the beats of his heart at will.

Ewald and Boas, of Berlin, have made a series of investigations of the process of digestion; as the result of which they state that stomachic digestion consists of three stages; during the first stage, which lasts half an hour, the gastric juice contains lactic acid; in the second stage, occupying from half an hour to an hour, both lactic and hydrochloric acids are present; during the third stage, consuming an hour or an hour and a half, hydrochloric acid is the only acid present.

The field of bacterial investigation is still being diligently worked, but no very practical results have yet been arrived at. Virchow acknowledges the importance of this subject, but justly deprecates the folly of assigning a bacterial origin to all maladies, and believes that the day of the cells will soon come again. The subject of ptomaines has also received considerable attention. The poison of decaying cheese has been isolated by Dr. Vaughan and termed tyrotoxin.

The theory that the poison of cholera acts primarily on the mucous membrane of the intestinal canal and secondarily upon the sympathetic nervous system has gained many adherents during the past year. The treatment based upon this theory consists in the addition of dilute sulphuric acid to all drinking water as a prophylactic measure, and in the administration in the early stages of the disease of large doses of calomel or ipecachuana in order to produce a free outflow of bile into the intestinal tract, the biliary secretion being destructive to all forms of low organisms. In the second stage the depression of the sympathetic nervous system can be most effectually counteracted by the administration of atropia, strychnia, and capsicum. Dr. Harkin has obtained brilliant results from the application of blisters over the course of the upper portion of the pneumogastric nerve in severe cases of cholera morbus, and earnestly urges a trial of the same measure in true cholera. Dr. W. B. Ryan, of Indiana, has directed the attention of the profession to belladonna or its alkaloid, atropia, in the treatment of cholera infantum. As this disease does not differ materially either in etiology or symptomatology from the cholera morbus, and sporadic cholera of adults, there can be no doubt of the value of belladonna in its management. Dr. Ryan is certainly entitled to our warmest gratitude for presenting the profession with an effective remedy for this dreaded disease of infantile life. The prevention of cholera infantum is of even more importance than its success-

ful treatment. The best prophylactic measure is frequent bathing of the entire surface with cold water. Attention to the diet is also of prime importance, but unless the effects of the excessive summer heat be counteracted by the free use of cold water great mortality will ensue. After an attack of cholera infantum has been fully developed cold bathing will still be found beneficial, and in many cases indispensable.

Dr. J. J. Mulheron, of Detroit, has truly said that "Baths hold an important place in the treatment of the fever of cholera infantum. The soothing influence of a cold bath on a child whose temperature has reached 103° F., and the increased activity of the drugs administered after the bath, need but to be witnessed to make converts to this much neglected remedy in the treatment of cholera infantum. The child should be immersed up to the neck in water at a temperature of 95 F., to which cold water should be added until the bath reaches 70 F. or even lower, the condition of the patient, his temperature, etc., being the guide to the reduction. No hard-and-fast rules can be laid down to govern the temperature of the bath or its frequency; the condition of the infant must be the guide which the good sense of the physician must be trusted to interpret and follow."

Several articles have been published during the past year in reference to the hypodermic use of antipyrin in the treatment of sunstroke or thermic fever. The results do not appear to justify its further employment. Sunstroke can be averted by drinking freely of cold water and avoiding excessive exertion during the heated term. If an attack supervenes the best remedies are free ventilation and the copious external application of cold water. If the pulse be full and bounding, venesection may be resorted to with advantage or aconite may be administered hypodermically.

Dr. H. C. Wood has observed a number of cases of lead poisoning, in which the true nature of the malady was not suspected for a long time, and urges that a careful examination of the urine should be made for lead in all obscure cases of long standing. In connection with this subject it may be stated that Dr. W. S. Janney believes that, in our climate, few, if any cases of cholera morbus occurring in persons not previously debilitated will terminate fatally, and that many of the deaths which are attributed to that disease, are in reality due to the secret administration of a vegetable or a mineral poison.

Dr. Pavy has directed attention to the fact that the presence of albumen in the urine unaccompanied with other symptoms does not necessarily imply a diseased condition of the kidneys. There are many persons whose urine becomes albuminous whenever the blood-pressure is increased as by exercise, mental strain, or a heavy meal, but the albumen disappears in a few hours and the general health remains entirely unaffected. Small quantities of sugar may also appear in the urine occasionally without possessing any special significance.

Several writers in this country and in England have claimed that the relationship between quinsy and rheumatism is so close that practically speaking the former may be defined to be a localized rheumatic

inflammation of the tonsils. In proof of this they point to the fact that the majority of cases of quinsy occur during cold, damp weather, and are benefited by the salicylates and alkalis. This argument is ingenious but not convincing. The salicylates and alkalis are beneficial in quinsy because of their sedative and derivative antiphlogistic action, and not because of their antagonism to an imaginary rheumatic etiological factor. Far better results can be obtained moreover by the administration of aconite and guaiac in doses sufficient to produce free diaphoresis and a decided reduction in the force and frequency of the cardiac movements.

Pulmonary syphilis has received considerable attention, but not as much as its frequency and its importance deserve. The principal diagnostic points by which it can be differentiated from pulmonary tuberculosis are the history of a specific infection, the dry, irritating character of the cough, the absence or insignificant character of the râles, the absence or infrequent occurrence of hæmoptysis, the normal appearance of the chest notwithstanding the large area of induration, the substernal tenderness, the thickening of the tibia and clavicles, the absence of bacilli from the sputa, and finally, the absence of severe febrile symptoms; the temperature usually remaining about normal and rarely rising above 101 or 102 until late in the course of the disease. Improvement rapidly follows the internal administration of mercury and potassium iodide. In cerebral syphilis the most effective results can be obtained from mercury used hypodermatically or by inunctions, as by either of these methods the system can be more quickly impressed with the remedy.

Dr. Wilkinson has directed attention to the value of hypodermic injections of carbolic acid in carbuncle. Drs. Schuppert, Stewart, and Woodbury, in a series of valuable articles, have insisted upon the necessity of recognizing the difference between tetanus and tetany. The prognosis in the latter disease is almost always favorable while in the former recovery is rare. Tetanus is almost invariably a complication of a pre-existing wound or injury, while the so-called idiopathic tetanus is not true tetanus, but tetany. In tetanus the muscles of the jaws and trunk are primarily involved, in tetany they are not affected at all or only secondarily, the spasmodic contractions being usually limited to the muscles of the extremities. In tetanus the pain is agonizing, while in tetany it is comparatively slight.

The treatment of acute and chronic alcoholism by large doses of nux vomica or its alkaloid, strychnia, has been employed by many American and European practitioners with uniformly gratifying results.

The difficulty of making a diagnosis of gastric ulcer has been painfully illustrated in several cases, occurring recently in Philadelphia, in which the existence of this lesion was not suspected until actual perforation of the stomach took place followed by violent peritonitis and death. No blame can be attached to the attending physicians, for there were no symptoms indicative of the disease until medical aid was useless. It would be well, however, to bear these cases in mind when consulted for vague gastric symptoms,

and to test the effect of the dietetic and therapeutic treatment appropriate for ulceration of the stomach, if other measures do not give prompt relief.

The neurotic treatment of coryza has been enthusiastically advocated by Dr. Lees, of London. This treatment consists of the administration of belladonna and bromide of potassium and the local application of cocaine, and is admirably adapted to those cases which are produced by exposure to cold and dampness. The epidemic cases, however, which are assumed to be due to minute bacteria can be more effectually treated by the use of large doses of quinine, from three to ten grains three times daily. Dr. Davidson, of Georgia, has directed attention to the value of the hypodermic administration of nux vomica in the treatment of opium poisoning, and Dr. O'Daniels, of the same State, has obtained the most gratifying results from *phytolacca decandra* in the treatment of orchitis.

While no brilliant discovery like that of cocaine has been made in the field of therapeutic research since our last meeting, several valuable additions have been made to our armamentarium and our confidence in many older agents has been increased. Alveloz, a South American remedy for cancer, has been tested in a few cases with apparently good results. The pain has been mitigated, the discharge lessened, the fetor removed, and the ulcerative process checked. Dr. Smith Townsend has reported a case of lupus of the face of forty years' standing which had resisted all previous treatment but was cured by a few applications of alveloz.

Kairin and antipyrin have been found to be prompt antipyretics. Unfortunately the reduction of temperature which they produce is of brief duration and is frequently accompanied by the most alarming symptoms of depression. In one case fatal collapse ensued; the judicious practitioner will avoid their use for the present and rely upon aconite, quinine, salicylate of soda, oily inunctions, and cold affusions. The safest and most efficient antipyretic is cold water applied either in the form of cold baths, sponge baths, or the wet-pack. It must be remembered, however, that the fever does not constitute the whole disease, and that heroic antipyretic measures are not indicated when the temperature does not exceed 103° F.

A process, termed pneumatic differentiation, has been introduced as a panacea for all pulmonary affections, and a number of elaborate articles have been published in commendation of it in various medical journals. A company has been formed to manufacture pneumatic cabinets, and the announcement is made that the cabinets will be rented to reputable physicians for the modest sum of \$250 a year. The cabinet is practically an air-tight box in which the patient sits while a slightly greater quantity of air is forced into his lungs than he usually inspires. Some benefit naturally follows this increased admission of oxygen into the circulation, but greater benefit can be obtained by simply directing the patient to habitually breathe fully, slowly, and deeply while pursuing his ordinary avocation.

The peroxide of hydrogen, which is simply water impregnated with an excess of oxygen, has been found

to be a valuable antiseptic when used as an injection in leucorrhœa, gonorrhœa, cystitis and otorrhœa, and as a local application in diphtheria, foul ulcers, and fistulous tracts.

Antiseptic inhalations have long been used with benefit in whooping cough and bronchorrhœa as well as in phthisis. Among those which are now regarded as especially valuable are inhalations of creosote, turpentine, iodine, eucalyptus, benzoic acid, and carbolic acid.

Rhus aromatica, which was recommended years ago by Dr. N. S. Davis as a valuable remedy for incontinence of urine, is now coming into general use for that annoying complaint.

M. Caulet has directed attention to the value of the cold foot bath in insomnia and the various disorders dependent upon cerebral congestion.

Thallin, which was introduced as the ideal antipyretic, has been found to be more unreliable and dangerous than either antipyrin or kairin.

Syzygium jambolanum (jambol) has been recommended as a specific for diabetes. Clacius employed it in several cases, all of which exhibited marked improvement in a very short time, but further trial will be necessary to determine its value.

Jamaica dog-wood (*piscidia erythrina*) has been found to be a valuable sedative and hypnotic, and has the advantage of not being followed by constipation and nervous depression.

Hypnone and urethan also possess valuable hypnotic qualities, but their poisonous action upon the lower animals demands caution in their employment upon man.

Cascara sagrada has been ascertained to be an efficient tonic and laxative. It promotes the appetite, assists digestion, and overcomes constipation without producing any unpleasant effects whatever, and deserves to be admitted to the U. S. Pharmacopœia.

Dr. F. T. Paine has directed attention to the value of *salix nigra* in ovarian neuralgia, dysmenorrhœa, and all irritative conditions of the genito-urinary organs.

Dr. Tovar, of Cuba, has stated that parthenine, the active constituent of parthenium hystrophorus, possess marked value as an antipyretic and antiperiodic. The plant is used by the natives of Cuba as a substitute for quinine, to which it appears to be only slightly inferior. Its qualities deserve further investigation.

According to Korab and others, helenina, the active principle of *inula helenium* (elecampane) is a powerful antiseptic. A few drops of the solution of helenina immediately killed the organisms in ordinary infusions and proved fatal to the bacilli of tuberculosis.

It is recommended in cholera, cholera-infantum, malarial fever, and all the zymotic diseases, and may be substituted with advantage for carbolic acid in all preparations for external use.

Hyoscine has been thoroughly investigated by Dr. H. C. Wood and others, and found to be a potent sedative and hypnotic, and invaluable in the treatment of many disorders of the nervous system. As its action is prompt, and the susceptibility of individ-

uals varies, the initial dose should not exceed gr. $\frac{1}{8}$.

Hamamelis virginiana has been somewhat neglected by American therapeutists, but European physicians who have employed it believe it to be without a superior as an astringent and hæmostatic. It has been used with remarkable benefit in menorrhagia, hæmoptysis, hæmophilia, intestinal hæmorrhage, painful hæmorrhoids, purpura and varicose veins.

Nitro-glycerine has retained its position as the remedy *par excellence* for angina pectoris and chronic interstitial nephritis. It is also effective in the treatment of shock, opium poisoning, cardiac asthma, cerebral hæmorrhage and in failure of the heart's action during the administration of chloroform.

Strophanthus hispidus, a new remedy which has been introduced by Prof. T. R. Fraser, promises to take the first rank as a cardiac tonic and stimulant.

According to M. Germain Sée, Sparteine, the active principle of *spartium scoparium*, the ordinary broom-plant, is also a powerful cardiac tonic similar to digitalis and convallaria, but more prompt in its action and more durable in its effects. Broom has long been known to be a valuable tonic diuretic. Liebrich, to whom we are indebted for the discovery of chloral, has called attention to the value of lanolin as a basis for ointments. Lanolin is an animal fat derived from wool and other keratin bearing tissues. It is not a panacea. It will not answer to employ it in all cases of skin disease, but it is readily absorbed, and possesses many advantages over the materials ordinarily employed as the basis for ointments. Lewinin, a resinous extract obtained from the root of *piper methysticum*, has been ascertained to be a local anæsthetic of considerable value but not equal to cocaine. Hydrastis and its alkaloid, hydrastine, have been employed in dyspepsia, melancholia, neurasthenia, and various forms of skin diseases with beneficial results. Rothe has ascertained that *urtica dioica*, the stinging nettle, possesses valuable hæmostatic properties. Boldo has been tested by several distinguished French clinicians and found to be a valuable hypnotic and soporific. Pyridine, one of the constituents of tobacco smoke, has been introduced for the treatment of asthma, but does not seem to possess any advantages over the remedies usually employed.

Terebene, a derivative of oil of turpentine, has been investigated by Murrell and found to be especially valuable in the treatment of winter cough, bronchorrhœa, and other forms of sub-acute and chronic bronchitis. It appears to have a sedative as well as a stimulating effect upon the mucous membrane of the respiratory tract, allaying irritation and assisting expectoration.

Attention has been directed to the value of osmic acid administered hypodermically in obstinate cases of sciatica. Sedum acre has been employed in diphtheria with apparent benefit. Ichthyol has been found effective as a local application in chronic eczema and psoriasis, pruritus, and acute and chronic rheumatism. Its value is due to the large percentage of sulphur which it contains.

Euphorbia pilulifera has been recommended for asthma. Salicylic acid has been found useful in the treatment of diarrhœa. Large doses of sulphur have

been asserted to be curative in dysentery. Caffeine has been thoroughly studied, and is believed to be but little, if at all inferior to digitalis as a diuretic and cardiac stimulant.¹ Its effects are less durable, but its action is more prompt and devoid of the dangers of digitalis. Renewed attention has been given to the subject of lavage in various gastric disorders and to the efficacy of oxalate of cerium in large doses as a gastric sedative. Arsenic has been found to be of especial value in the treatment of pernicious anæmia and other wasting diseases.

The subject of dietetics has attracted considerable attention during the past year and will receive far more in the future. Improper or unsuitable food is the most potent factor in the production and maintenance of many morbid conditions, and while temporary benefit can be obtained by the administration of medicines, no lasting cure can be effected until the exciting cause is removed. It does not require the gift of prophecy to foretell that in the near future dietetics and hygiene will be the watchwords of preventive medicine, and dietetics and therapeutics those of practical medicine.

It is impossible for me to close this address without deploring the loss which the American medical profession has sustained in the death of Dr. Austin Flint, Sr. Preëminent as a writer, teacher, and practitioner of medicine; acknowledged without a dissenting voice to be the greatest of American physicians, he bore his honors modestly, and never arrogantly asserted his superiority or used his great authority to the disadvantage of the humblest of his professional brethren. Kind of heart, studious of disposition, refined in conversation, gentle and magnanimous in character, faithful to the American Medical Association to the end, he passed away surrounded by love, honor, and scores of friends; but his work lives after him, and his spirit is with us still. For as Longfellow has beautifully said:

"Were a star quenched on high,
For ages would its light
Stream downward from the sky
Upon our mortal sight.

"So when a great man dies;
For years beyond our ken
The light he leaves behind him lies
Upon the paths of men."

ORIGINAL ARTICLES.

ELECTROLYSIS IN GYNECOLOGY; WITH A REPORT OF THREE CASES OF FIBROID TUMOR SUCCESSFULLY TREATED BY THE METHOD (WITH DISCUSSION).¹

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Electrolysis is the power of resolving compound

¹ Read in the Section of Obstetrics and Diseases of Women at the Thirty-Seventh Annual Meeting of the American Medical Association, May 5, 1886.

bodies into their constituent elements by passing through them a current of electricity. The constituent elements or *ions* of a body or *electrolyte* so divided, have a general tendency to arrange themselves around either pole of the battery—the *anions* going to the positive and the *cations* to the negative. Electrolysis only occurs in that part of the body which is in a fluid state. We know that if a galvanic current be passed through water, the element oxygen is attracted by the positive, and the hydrogen by the negative pole. The theory of electrolysis is: In every compound one of the elements (the one attracted by the positive pole) is electro-negative, the other the electro-positive. If a molecule next the positive electrode be decomposed, the electro-negative constituent of the molecule is attracted by that pole, thereby setting free the electro-positive constituent, which immediately grasps and combines with the electro-negative element of the next molecule, and so on, until every molecule has been similarly acted upon in the line of the current.

This is the theory. While this is true, we find that besides this simple "change of position," as Clausius calls it, we have a direct transference of fluid particles in the direction of the galvanic current. This phenomenon of direct transference was called by DuBois Reymond the cataphoric action of the constant current. This action can be demonstrated in a simple way by placing the electrodes of a galvanic battery in two compartments of a fluid, separated by a porous septum, when it will be seen that the fluid particles pass in the direction of the galvanic current, from the + to the — pole, and the fluid in one half of the dish will increase at the expense of the other half. It is by this action that dissolved substances are introduced through the skin by means of electricity.

Thus briefly and imperfectly I have stated the principle of electrolysis as it is observed in a fluid. When it is remembered that from one-half to two-thirds in bulk of all the soft tissues of the body is water, we can readily see how perfectly electrolysis can be accomplished in the various tissues. While the galvanic current passed through a soft living tissue has not an uninterrupted fluid medium, it has practically a fluid medium divided into innumerable little compartments, each one separated from the other by a thin wall of solid. During the passage of the current each of these particles of solids acts as a positive electrode on the fluid between it and the next solid particle in front, and as a negative electrode upon the fluid between it and the solid particle behind it. Each molecule of fluid in a conducting solid, therefore, in the line of a galvanic current becomes electrolyzed. It is found, also, in passing a galvanic current through a portion of the soft tissues of the body, that there is considerable tendency to a cataphoric action. That occurs by a direct transference of the fluid particles through the little permeable walls of solid in the direction of the negative pole of the battery. Thus we find the effect of electrolysis on a portion of soft fresh tissue to be: 1. A separation of the combined elements (more or less) into their constituent elements, and a rearrangement of