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MISSING

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EDITORIAL.

THE PROFESSIONAL CARE OF THE RETURNED SOLDIER.

The following reolution speaks for itself and should meet with the support of the medical profession all over Canada.

At a special meeting of the Academy of Medicine, Toronto, July 10th, 1917, the following resolution was unanimously adopted:

Whereas, it has always been the custom to have wounded and invalided soldiers retained under military regulations until discharged, and treated professionally by physicians and surgeons responsible only to the military authorities;

And whereas, in Canada a plan has been followed whereby wounded and invalided soldiers are placed under the professional care of physicians and surgeons who are made responsible to a civilian commission;

And whereas, the hospitals for the care of returned wounded and invalided soldiers, instead of being under the control of the Militia Department, have been placed under the control of the Military Hospitals Commission;

And whereas, up to the present the Commission have not assumed full control of these hospitals inasmuch as the medical care of patients is still to a large extent under medical officers responsible in part to the military authorities and in part to the Military Hospitals Commission, there exists a state of dual control which is eminently unsatisfactory and does not ensure provision of the best treatment available for the soldiers;

Therefore, be it resolved and it is hereby resolved that in the opinion of the Academy of Medicine, Toronto, there should be one united Medical Service in Canada and that the medical care of all soldiers, invalided or otherwise, should be placed directly under a surgeon-general, to be known as Surgeon-General of Canada, with direct responsibility to the Honorable, the Minister of Militia, and with a seat on the Militia Council;

Further, that the Surgeon-General of Canada should absorb the duties of director of medical services, invalids, and be chief medical officer of the Military Hospitals Commission, and be ex-officio a member of the Military Hospitals Commission and of its executive.

Further, that Surgeon-General Fotheringham, who has been recalled from overseas to become Director of Medical Services, Invalids, should be appointed forthwith as acting Surgean-General of Canada;

Further, that the views expressed by Surgeon-General Fotheringham in his evidence before the Parliamentary Committee on Returned Soldiers at its sitting on June 12th, 1917, are generally endorsed;

Further, that copies of this resolution be sent to the Right Honorable the Premier of Canada, the Right Honorable the leader of the Opposition, the Honorable the Minister of Militia and Defence, the Parliamentary Secretary of Militia and Defence ,the chairman of the Military Hospitals Commission, the chairman of the Parliamentary Committee on Returned Soldiers, and the press.

It has been long felt that the plan adopted in this country for the care of returned soldiers would lead to confusion. There are two sources of authority. The one is the Department of Militia, and the other is the Hospitals Commission. We contend that there is work for both, but along entirely different lines.

We hold that the Department of Militia should retain the full control over the returned soldier until he is discharged from the army and goes into civil life. This would mean that the medical and surgical care and nursing attendance upon the invalided soldier would be responsible to the Minister of Militia. Here let us make at clear that the Government should at once appoint a competent person to take charge of all this work; and as it is entirely professional, that person should be a member of the medical profession—a surgeon-general.

Then with regard to the Hospitals Commission, the duty of this very important body should be to finance the whole care of the returned soldiers. It should provide the requisite hospital accommodation, properly furnish the hospitals, and provide proper transportation facilities. But the sort of furnishing, the sort of food ,the quality of the nursing, and the efficiency of the medical and surgical care must be decided upon by the surgeon-general, who is responsible to the Minister of Militia.

In no other way can any consistent scheme of treatment be carried out that will not lead to friction, and, worse than friction, positive chaos. We have no patience with the specious argument that because the returned soldier is a wastage of the war, he should be taken off the hands of the military authorities and placed under the control of the

Hospitals Commision, and really be regarded as a civilian. The logical conclusion of such a position would be to remove from the returned soldier his uniform and relegate him at once to civil life and have him treated in any civil hospital and under the discipline of a civil hospital. Nothing could be more apparent than that such a method would never do. The returned soldier would just have to accept what care he got and where he could get it. As it is quite clear this would not work, and as the soldier must be kept under Government control until restored to health, then it is an unanswerable conclusion that he must be kept under one control.

There is another duty, and a most important one, that the country must discharge for the returned soldier. This is to see that he is properly trained for some occupation. If he has lost an arm or a leg, or his sight, or been reduced in bodily vigor, some occupation may have to be found for him different from that which he was engaged in when he entered the army. Here is one of the chief duties of the Hospitals Commission. But just here let us say that the sort of training and its amount should be under the surgeon-general, or it may prove a menace to the professional care the soldier is receiving.

THE MEDICAL COUNCIL OF ONTARIO.

The work of the Council this year was important in some respects, A few things done deserve notice.

One was the adoption of a resolution submitted by Sir James Grant, and seconded by Dr. T. S. Farncombe, as follows: "Resolved, that the members of the Medical Council of the College of Physicians and Surgeons of Ontario desire to place on record our oppreciation of the temperance legislation of Hon. Sir William Hearst and the Government of Ontario, which in our humble opinion will materially advance the best interests of Ontario, the premier Province of Canada, and it will afford us pleasure to note a like act of temperance movement on the part of the entire Dominion."

Another important topic was the discussion on patent medicines containing a high percentage of alcohol. On motion of Dr. Brodie, the Council passed a resolution condemning the sale of medicines of this sort, and also decided to communicate with the Federal Government upon the matter. Proprietary medicines should be limited to a standard of two and one-half per cent. alcohol.

A motion asking that legislation be secured to prevent unqualified men from doing radiographic work was proposed by Dr. Kellam, and carried.

A special committee was also appointed to lay before the Federal Government an expression of the council's concern over the spread of certain special diseases.

The solicitor of the Council was instructed to draw the attention of the Attorney-General to the verdict of a jury in St. Thomas respecting the case of a man who had died under chiropractic attendance, where the person had not been given sufficient nourishment nor proper medical treatment. The attention of the Government was directed to the fact that chiropractic practitioners without professional training were a menace to the public.

The Council also condemned, and very properly so, newspapers that carried the advertisements of patent medicine concerns, where the pretensions set forth were grossly fraudulent.

The name of an Ottawa doctor was removed from the register for an act of unprofessional conduct. The Council decided by a vote of 26 to 1 for the removal of the name.

Before the next annual meeting a special committee will gather information on the alarming menace of venereal diseases. The matter was considered to be of such a serious nature that it was thought best not to have a report until a thorough one could be presented.

It was agreed that the graduates of a number of United States colleges be allowed to practise in Ontario without attending college here for one year, but on passing the examination of the Council. The same privilege must be granted to the graduates of the Council when they go to the United States.

The question of a medical census of the doctors in the Province, some 4,000 in number, with the object of ascertaining in what way they could further assist in the war, was introduced by Dr. E. E. King. A committee comprised of Drs. W. E. Crain, J. McCallum and Wickens was appointed to take the matter in hand.

Dr. G. R. Cruickshank introduced a motion for one examination for the Dominion. After a good deal of discussion this whas adopted.

Those present were: Drs. W. L. T. Addison, B.A., Toronto; J. F. Argue, Ottawa; H. Becker, Toronto; G. M. Brodie, Woodstock; W. E. Crain, Crysler; G. R. Cruickshank, Windsor; F. A. Dales, Stouffville; A. T. Emmerson, Goderich; T. S. Farncomb, Trenton; R. Ferguson, B.A., London; Sir James A. Grant, Ottawa; H. S. Griffin, Hamilton; H. J. Hamilton, Toronto; E. A. P. Hardy, Toronto; C. E. Jarvis, London; A. J. Johnson, Toronto; E. T. Kellam, Niagara Falls; E. E. King, Toronto; F. R. Eccles, London; J. M. MacCallum, Toronto; S. MacCallum, Thornbury; G. A. Routledge, Lambeth; J. C. Connell, M.A., Kingston; W. Spankie, Wolfe Island; A. D. Stewart, Fort William; J. J.

Walters, Kitchener; A. E. Wickens, Hamilton.

The officers elected were: Dr. W. E. Crain, president; Dr. R. Ferguson, vice-president; Dr. H. W. Aikins, registrar-treasurer, and Mr. H. S. Osler, solicitor.

PATENT MEDICINES.

In another part of this issue we give some valuable information regarding one of the new "medicines" flaunted before the public gaze. Martin Luther once said that "three-fourths of the people were going about with their mouths agape waiting for some one to befool them." Barnum said that "if this be true then I am going after the three-fourths." The composition of some are just in keeping with what one would have expected. Ontario is now "dry," and a mixture of high percentage of alcohol comes in very conveniently for those who wish a "fillip."

The day has long gone by when it could be said that newspaper men are ignorant about the merits of such concoctions. There is no excuse for the lay press carrying the advertisement of mixtures that hold out promise of curing consumption, cancer, all sorts of kidney diseases, any every kind of stomach trouble. We have seen advertisements promising a cure for paralysis. Such statements are fraudulent and should be so regarded and so treated.

Proprietary medicine men in the past have made large fortunes in a most brazenly dishonest way. This must cease. The law does not permit one to sell three-quarters of a pound for one pound; far less should it permit one to sell a consumption or a cancer cure.

GERMAN PATENTS.

The quotation from a recent issue of the *British Medical Journal* is much to the point:

"It is to be hoped that in the years to come it will never again happen that industries providing materials which are directly, or indirectly, essential to the practice of medicine are allowed to languish and die out in this country. Instances which strike the mind at once are the manufacture of many kinds of scientific apparatus, and the synthetic drug industry, both of which had so largely passed into the hands of firms in foreign countries, that the outbreak of war found us cut off from almost every source of supply. The result has been a dangerous shortage of instruments, chemicals, and appliances indispensable

alike in research, in diagnosis, and in therapeutics. British firms have done, and are doing, their best to cope with this situation in the midst of the war, but the heavy and increasing demands of the army are always ahead of the supply. One after another the available stocks of articles needed for medical practice are being, so to speak, called up to the colors or passed into the army reserve."

Just so. Most countries allowed Germany to monopolize much of the trade in drugs and chemicals. In that country labor was cheap, and many of the ingredients required were plentiful. But this condition will never happen again.

We contend that no time should be lost on the part of all the allied countries to cancel all German patents. That country has made herself an outlaw to humanity.

CALAMINE LINIMENT.

William Allen Pusey (*Journal of Cutaneous Diseases*, December, 1916) proposes a substitute for the well-known calamine lotion in the shape of a liniment. The cooling effect of lotions is not denied, but it is to overcome the drying of these lotions that the liniment finds a distinct place. The formula is as follows:

℞ Powdered tragacanth	ʒi
Phenol and glycerin mixed	♏x
Zinc oxide	ʒi
Calamine	ʒi
Olive oil	ʒiv
Oil of bergamot	♏xx-1
Water	q. s. ad.

A few drops of phenol keeps the liniment sweet indefinitely

The technic of preparation of the emulsion is as follows: A wide-mouth bottle should be used, one large enough to allow a free shaking of the quantity of emulsion to be made. The bottle should be clean and dry. The phenol, glycerin, and oil of bergamot are first added to olive oil. Shake until the entire surface of bottle is covered with film of oil. The tragacanth, which should be powdered, is added little by little and shaken, when a yellowish opaque mixture is formed. Four ounces of water are added and shaken. The calamine and zinc oxide mixed dry are stirred up with the remaining eight ounces of water in a separate container. The mixture of the powders is now added to the oily mixture, an ounce at a time and vigorously shaken until emulsion is made. It is a smooth pink emulsion. Various ingredients can be added to it such as sulphur, ichthyol, etc.—*New York Med. Jour.*

ORIGINAL CONTRIBUTIONS

FOCAL INFECTION AND ITS CONSEQUENCES.*

By Judson Daland, M.D.,

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A FULL recognition of the principles concerned in focal infection as a cause of constitutional diseases constitutes an epoch-making advance in the etiological diagnosis, prevention and cure of certain diseases, many of which affect vital organs. It has long been recognized that focal infection may cause systemic diseases, but hitherto it has been considered of rare occurrence. The association of an abscess about an ingrowing toe-nail with endocarditis has been occasionally recorded, and arthritis secondary to gonorrhea or profound septicemia following an infected wound received during operation has long been known. Dr. W. D. Miller more than a generation ago pointed out the constitutional effects of oral sepsis. The present concepts of focal infection, however, follow an entirely new line of thought and concern themselves with serious and sometimes irreparable damage to vital organs secondary to a small and apparently insignificant focus of infection or suppuration, usually causing no local symptoms. This focus may be so small that many believe it incapable of producing systemic diseases. *It is always important to remember that the virulency of the organism is more important than the size of the lesion.*

Focal infection may cause disease of joints, tendons, periosteum, medulla. bones, muscles. pericarditis. myocarditis. simple. ulcerative or recurring endocarditis, endarteritis, myositis, psychasthenia, neurasthenia, cerebritis, meningitis, insular sclerosis, chorea, herpes Zoster, peripheral neuritis, affecting the maxillary, sciatic, anterior crural, lumbar or intercostal nerves; acute, chronic or recurrent duodenal, intestinal or rectal ulceration; appendicitis, cholecystitis, pancreatitis; acute, subacute or chronic nephritis; pyelitis, cystitis, metritis, salpingitis, prostatitis, seminal vesiculitis, bronchitis, broncho-pneumonia, pneumonia, pleuritis, and may complicate pulmonary tuberculosis and other diseases; anemia, which may become pernicious; intermittent fever with chills, fever and sweats; parotitis, thyroiditis, and may affect other ductless glands.

* Read by invitation before the Academy of Medicine, Toronto, Canada, April 3rd, 1917.

Focal infection may be due to one or more of several organisms, but is generally due to streptococcus, occasionally to staphylococcus, and these two and other micro-organisms may be present in the same focus. Occasionally pneumococcus, micrococcus catarrhalis, influenzal bacillus, diphtheria or pseudo-diphtheria bacillus, gonococcus, the tubercle bacillus or saprophytic organisms may be in association.

It is important to remember that in most instances the streptococcus viridans or hemolyticus is the infecting organism. This coccus is present in many mouths apparently normal and may be acquired by carriers or by food, milk or through the air. The origin of the streptococcus is unknown. From the standpoint of virulency, specificity and trophism, streptococci may be arranged in the following order. (1) streptococcus hemolyticus, (2) streptococcus rheumaticus, (3) streptococcus viridans, (4) streptococcus mucosis.

The conscientious, painstaking work of Rosenow has clearly proven that the streptococcus, by cultural methods or by passing through laboratory animals, may be transmuted into any one of these varieties or into the pneumococcus. He has also proven that these organisms possess specificity for certain tissues of the body, and that variations in the transmutability, pathogenicity and specificity produced in the laboratory *also take place in the human body.* Micro-organisms obtained from a focus of infection causing cholecystitis or from the diseased gall-bladder when injected into animals, produce cholecystitis in a large percentage of cases, and this is also true of appendicitis, arthritis, gastric ulcer and other diseases. These experiments prove that the primary focus produces the disease and that the organism possesses selectivity.

Secondary infections usually take place by the hematogenous or lymphatic route, and micro-organisms have been observed in secondary foci as emboli. The septic focus produces not only micro-organisms but also toxins, which play an independent role in causing chemic trauma of various tissues of the body, and evidence exists tending to confirm the belief that these toxic substances also possess selectivity, or that certain tissues select these toxic bodies. The rapidity of the disappearance of mental and physical weakness and severe pain in certain nerves, when the focus of infection has been removed, is best explained by assuming that they were due to toxemia. The varying degrees of virulency of the streptococcus depend upon the presence of varying amounts of oxygen, the less the oxygen the greater the virulency, and, to a certain extent, the food supply is also a factor. Many focal infections remain local, and this observation has prevented many thoughtful physicians from believing that focal infection causes constitutional diseases. An abundance of clinical and bacteriological evidence, supple-

mented by animal experimentation, clearly proves that focal infection causes constitutional disease.

Secondary infections from focal sepsis may be prevented by immunity or low virulency of the organism; natural immunity may be lost by over-mental or physical work, loss of sleep, lowered nutrition from insufficient food or defective digestion, prolonged exposure to cold, shocks from physical or mental trauma, or from intercurrent diseases, such as influenza, typhoid fever or diabetes. An avirulent organism may become virulent from diminution of the supply of oxygen, due to the blocking of a sinus draining a septic focus or by symbiosis.

The clinical proof that focal infection causes systemic diseases rests upon: (a) observed association of cause and effect, (b) removal of the focus followed by disappearance or amelioration of the disease, (c) removal of the focus followed by disappearance of leucocytosis or lymphocytosis, (d) and by the exclusion of any known cause of the disease.

The location of the primary focus of infection may be anywhere, but occurs most frequently in the cavities of the head. After forty years of age the teeth or gums are the most frequent seat of the primary focus of infection, whereas in the young it is the tonsils. The seat of the focus of infection in the order of frequency is: (1) roots of teeth and gums, (2) tonsils and peri-tonsillar tissue, (3) the antra, ethmoid, sphenoid, frontal, mastoid, middle ear, (4) gall-bladder, (5) appendix, (6) the genito-urinary and respiratory tracts.

The primary focus of infection may be acute, subacute, chronic or latent, simple or multiple, or may be modified by symbiosis. When the the primary focus has been removed a secondary focus, such as lymph nodes, may then become the primary focus and cause or continue constitutional disease. The best example of a small focal infection is an abscess about the root of a tooth occupying an area no larger than a small split pea. Such an abscess or focus of infection may be acute, subacute or chronic, simple or multiple, and may remain local or cause systemic disease. Only occasionally is a periapical abscess secondary to a primary focus at a distance from the root affected or from other parts of the body; but extension of a periapical abscess from one root to another by contiguity is frequent. A secondary periapical abscess often affects the roots of otherwise normal teeth; whereas primary periapical infection or abscess is usually secondary to infections from the mouth and usually occurs in teeth previously diseased or devitalized, from septic dentistry, or by the extension of pyorrheal pockets along the sides of the root.

Abscesses or infections about the roots of the teeth frequently exist for months or years before detection, and it is probable that the con-

stitutional effects occur intermittently, depending upon varying degrees of natural or acquired susceptibility or immunity.

The diagnosis of focal infection at the root of a tooth when pain and swelling are present is easy, but in my experience such cases are comparatively infrequent, and by far the largest number are absolutely latent, so far as local signs or symptoms are concerned. *The average dentist or doctor is entirely satisfied that no dental infection exists in the absence of local signs or symptoms.* The physician usually receives little or no help or encouragement from the patient or dentist in diagnosing latent periapical abscess, but, on the contrary, often encounters opposition. A Roentgenogram may give sufficient evidence to justify the removal of artificial dentures, exploration of pulp canals and periapical spaces in order to secure evidence upon which to base a diagnosis. The patient is usually opposed to spending time and money in order to convert a suspicion into a reality; the dentist is unwilling to destroy costly artificial dentures which have been constructed with great mechanical skill, and rests firm in the erroneous belief that if the patient complains of no symptoms he should "let sleeping dogs lie". The physician is sometimes mentally lazy and indisposed to assume the responsibility of advising measures that are often painful, time-consuming and costly, and which *may* lead to a negative diagnosis. The thoughtful physician is often concerned because the removal of focal infection is sometimes only possible by extracting teeth which may seriously interfere with mastication.

When the dental pulp or nerve has been destroyed by infection or by a dentist preparatory to filling or capping a tooth or making an abutment for a bridge, it is not surprising that a periapical abscess causes no pain. A latent periapical abscess or infection may be suspected when a tooth is dead, loose, capped, or the crown contains a large filling, or when the gum over the roots is swollen. A diseased root may be suspected or diagnosed if pain is induced by mastication, pressure, or percussion, or by reaction to heat, cold or electricity. When the gum is swollen, red and painful, or an alveolar fistula is discharging pus, the diagnosis of apical abscess is obvious. A Roentgenagram should be made of the roots of *all* teeth, as well as of those suspected of being infective, and evidence thus obtained may not only aid or verify the suspicion of periapical abscess or infection, but may reveal unsuspected lesions. A skilled dentist alive to the importance of focal infection, bringing to bear the resources of dentistry, may supply additional or conclusive information by opening and examining root canals of suspected teeth, or by securing from a periapical space pus or pathogenic organisms. It is the duty of the dentist in consultation with a physician

to determine whether a tooth should be extracted or treated if systemic manifestations are present.

It is sometimes impossible to cure a periapical abscess or infection by drainage or treatment through the pulp canal or by amputation of the root. A patient with polyarthritis, dental in origin, after the expenditure of considerable time and money, was apparently cured by amputation of the root and drainage through the pulp canal. Eight months later an acute cholecystitis occurred, and when the infected tooth was extracted it revealed a putrescence of the pulp ,and culture from the periapical space showed the streptococcus viridans. This sequel occurred in the practice of a skilful and careful dentist, fully aware of the importance of dental infection, and it is probable that relief of *local* symptoms without disappearance of infection occurs *more frequently* than is generally believed. A case of acute polyarthritis was greatly relieved by the extraction of three teeth, the roots of which were abscessed. Marked improvement continued for two months, followed by a relapse, and re-examination showed a periapical abscess which had been overlooked, the removal of which was followed by a slow recovery.

Whenever a useless tooth shows a periapical abscess it should be extracted, the alveolar socket curetted and any fragment of elveolar process removed. Whenever a patient with focal sepsis is unable to secure the services of a skilled dentist or if beginning symptoms and signs of involvement of *vital* organs show themselves, the tooth should be immediately extracted.

I am convinced that dental focal infection *frequently* causes endarteritis, and also aggravates endarteritis due to other causes, more especially syphilis.

The most common manifestation of secondary infection is that clinical syndrome hitherto described as acute poly-articular rheumatism, usually affecting the larger joints, but it may affect any joint, and preferably one that has been previously diseased or injured.

Physiologically, fifty-four teeth exist in an adult's mouth, the root of any one of which may be a focus of infection, and if latent, it is easy to understand why the primary focus of infection is so frequently dental, and so frequently overlooked. Whenever any of the diseases already mentionad occur, without obvious cause, focal infection should be suspected; and as the oral cavity is the most frequent seat of the primary focus, it is obviously necessary to examine minutely each root of each tooth and also the gums.

Pyorrhea may cause toxemia, malaise, muscular weakness, anemia, furunculosis; but arthritis, cardio-vascular or gall-bladder manifectations are less frequent, unless a deep pyorrheal pocket exists, so situated

as to prevent the access of oxygen to the infective organism. When pyorrhea is associated with involvement of the alveolar processes, secondary manifestations are more common.

The second most frequent seat of primary focal infection is the tonsil, although tonsillitis may also be secondary to pyorrhea or sinusitis. Usually there is a history of recurring tonsillitis, although exceptionally the patient insists that he has never suffered from inflammation of these glands, which on inspection are usually enlarged in varying degrees, but may be normal in size or atrophied. Occasionally enlarged cervical glands may be palpated, or from the crypts may be expressed decomposing and infective materials. It should be remembered, however, that decomposition is not necessarily a sign of infectivity. A lacunar inflammation may cause adhesions, preventing the escape of diseased contents of the crypts, and may ultimately cause inflammation of the other tonsil and finally systemic disease. Occasionally focal sepsis exists in the peri-tonsillar space. If an enlarged tonsil has been guillotined, the divided crypts may be closed by adhesive inflammation, causing foci of infection. Focal infection, tonsillar in origin, more usually produces poly-arthritis, neuritis, endo, peri, or myocarditis, endarteritis, cholecystitis, anemia and these diseases may be recurrent. A valvulitis caused by a primary infection of the tonsil may later be converted into an ulcerative endocarditis. I have observed two cases primarily due to dental sepsis, each terminating fatally. If ulcerative endocarditis is diagnosed early and the primary focus removed an autogenous vaccine may prove of value. If the diseases mentioned are apparently causeless, and the tonsils are diseased, even though it be impossible to prove that they are infective, they should be removed. When the removed tonsil is examined it sometimes shows an intra or retro-tonsillar abscess which could not be diagnosed before removal. In one case where recurring mitral valvulitis resulted from focal infection, tonsillar in origin, the removal of the tonsils was followed by complete cardiac compensation, whereas partial decompensation had existed for four or five years. In another case recurring irregular fever had existed for many months, with well-marked myocarditis and endarteritis with decompensation and a loss of seventy pounds in weight, with extreme weakness. The enucleation of one infected tonsil under local anesthesia was followed four or five months later (despite the preliminary injection of morphine and atropine), by tachycardia, arrhythmia, dyspnea, collapse, and then gradual recovery. A second tonsillectomy was performed about two weeks later, and by mistake morphine and atrophine were not given. Six or eight hours after the operation collapse occurred, the heart was weak, the pulse scarcely perceptible, and death was imminent. The

patient responded to concentrated hot coffee, caffeine, strychnine and alcohol, and ultimately recovered and resumed his avocation. This occurrence shows the vital importance of morphine and atropine before removing tonsils under local anesthesia when there exists advanced disease of the cardio-vascular system and low resistance.

Suppurative inflammation of any of the sinuses, including the mastoid and middle ear, may be a primary focus of infection; but secondary manifestations, in my experience, have been observed more frequently in connection with ethmoidal and sphenoidal disease. The more usual secondary manifestations are acute, subacute or recurring polyarthritis, malaise, loss of weight and anemia. When an infective sinusitis freely drains secondary manifestations are unusual, but free and continuous drainage is sometimes most difficult, especially in ethmoidal and sphenoidal sinusitis. In very rare cases pus may be confined in a space within the mandible and cause local pain, and malaise, loss of strength and anemia, with marked interference with digestion. Focal infection as a cause of constitutional diseases, when not located in the head cavities, is on the whole rather unusual. Suppurative cholecystitis or appendicitis may be a primary focus of infection and cause polyarthritis and other diseases and local signs and symptoms may be absent.

Prostatitis, prostatic abscess, posterior urethritis and vesiculitis seminalis, although usually gonococcous in origin, have generally other specific organisms in association. Systemic manifestations are especially apt to occur when septic material is confined in the prostate or seminal vesicles because of defective drainage or obstruction of the ducts. Occasionally drainage is intermittent, causing intermittent toxemia of septicemia, with or without fever, and the common systemic manifestations are poly arthritis, endo, peri, or myocarditis or nephritis. Gonorrheal endometritis or salpingitis is more apt to cause systemic disease when drainage is interrupted, as, for example, when pyosalpinx is associated with occlusion of the uterine extremity of the Fallopian tube. It should be remembered that if pyorrhea produces tonsillitis secondarily, when the pyorrhea has been cured, the diseased tonsil may then become a primary focus, and in like manner an infected tonsil may cause adenitis; and when the diseased tonsil has been enucleated the infective lymph nodes may then become primary and cause or continue systemic disease.

A very frequent systemic result of a focal infection is an acute catarrhal diffused nephritis, the urine usually containing erythrocytes, casts and albumin. Facial neuralgia, due to secondary neuritis, or as the result of infection of a dental nerve ending, is not uncommon.

Marked impairment of mental or physical vigor and inability to react from cold, accompanied by many of the usual symptoms of neurasthenia, is more frequent than is usually supposed, and sometimes complicates nervous exhaustion from other causes. Suppurative maxillary sinusitis by direct infection from a periapical abscess at the root, penetrating or lying close to the bottom of this cavity is not uncommon, and in a similar manner peri-ostitis or ostitis occurs. Rosenow has shown that peptic ulcer may be secondary to focal sepsis; and it is more than probable that if the primary focus continues this ulcer may ultimately become chronic and indurative. A very important sign of systemic infection from a focus of infection is leucocytosis, which, however, is frequently absent. It is probable that in certain cases the entrance into the circulation of micro-organisms and toxins from a septic focus is intermittent and that the leucocyte reaction is therefore intermittent. When a focus has existed for many months or years it is probable that leucocytosis is no longer present when a systemic invasion occurs. In a number of cases I have been aided in diagnosis by recognizing lymphocytosis even though the leucocyte count was normal.

An acceptance of the truth that septic foci *cause* constitutional maladies makes possible the prevention and cure of many acute and chronic diseases of the nervous, cardiovascular, genito-urinary, gastro-intestinal, osseous and muscular systems, and ductless glands.

FALSE SYSTEMS OF HEALING, NO. 2—OSTEOPATHY.

By John Ferguson, M.A., M.D., Toronto.

REPRESENTATIVES of this cult have been heard on several occasions before Mr. Justice Hodgins, the Commissioner appointed by the Ontario Government to enquire into the claims of the various systems of medical treatment. On 29th June, E. D. Heist, of Kitchener, read a paper in which he attempted to defend the position of the osteopaths. He contended that the author of this paper showed his ignorance, either pretended or real, of osteopathic procedure. In answer to this contention, I would state that it is not my ignorance, but my knowledge of the system followed by osteopaths that is the real ground for their complaint.

I have carefully read and studied the books written by A. T. Still, Charles Hazard, D. L. Tasker, C. H. Murray, G. V. Webster, Louisa Burns, E. D. Barber, A. P. Davis, C. H. Hoffman, G. D. Hulett, E. H. Laughlin, and others, whose books are recommended as the text books for the students attending the osteopathic colleges, as shown in the most

recent announcements of these college, or are quoted by writers on osteopathy as works of authority. I have also carefully read many numbers of the *Osteopathic Journal* and *Osteopathic Health;* also the announcement of the Chicago College of Osteopathy, The American School of Osteopathy, Kirksville, The Philadelphia College and Infirmary of Osteopathy, The Central College of Osteopathy, Kansas City, The Still College of Osteopathy, Des Moines, The College of Osteopathic Physicians and Surgeons, Los Angeles, and The Massachusetts College of Osteopathy, Cambridge. I have also read a number of articles written by the exponents of osteopathy for the several encyclopaedias. Lastly, I have read or heard what has been said in its behalf by those who appeared for the osteopaths before Mr. Justice Hodgins.

I make bold to state that I am not ignorant of the system of treatment followed by osteopaths. On the contrary, I am fully aware of their pretensions, the courses of study prescribed in their best colleges, the theories on which their system is founded, and their methods of practice. It is on this fair and extensive study of their teachings regarding diseases, their etiology, their pathology, and their treatment that this article is based. If the osteopaths find any fault with what is said herein they must carry their complaints to their own writers and teachers—for it is they who have laid the foundation for the criticisms and strictures which I have to offer upon their system.

Osteopathy, Bonesetters, Etc.

E. D. Heist, D.O., who was one of the chief defenders of osteopathy before Mr. Justice Hodgins, contended that I had mixed osteopathy with bone-setters and Swedish movement. Let me put him right. What I have said, and what has been endorsed by the most competent of authorities, including writers on osteopathy, is that it is a system of treatment by manipulation; and manipulation under some name dates from very ancient days, and has been known under different names. It is, therefore, in the class with bone-setting, Swedish movement, and massage.

Any one who will take the trouble to acquaint himself with what the bone-setters did, he will find that it was a practice that was much wider than merely setting a broken bone or reducing a dislocated joint; for it covered rubbing of swellings of all sorts, the treatment of enlarged glands, the cure of the king's evil (scrofula), the manipulation of stiff joints, and much else. As to the practice of Swedish movement, it was very wide in its application. It made use of rubbing, manipulation, and very varied movements for a great variety of chronic ailments. These operators applied their method to nervous diseases, dyspepsia, constipation, rheumatism, sprains, backache, tumors, dropsy, etc. It will be seen that this is the ground traversed by osteopathy. Then, if one will look into the

methods, it will be found that in Swedish movement practically the same sort of manipulations were employed as are now in vogue by the osteopaths. There is a difference of name without any real difference of method. But those who practised the Swedish movement did not put forth the two erroneous positions of the osteopaths that a large proportion of all diseases is due to some displacement, and that the rule of the artery is absolute. With regard to massage a work such as that by Dr. C. Hermann Bucholz, of the Massachusetts General Hospital, Boston, covers everything that is or can be covered by osteopathy. It will be seen that no mistake was made when osteopathy was grouped with bone-setting, Swedish movement, and massage.

It does not follow that because these forms of treatment have been made use of in some way for thousands of years that they are wrong. The fact is they have all had a certain amount of merit; but were often very ignorantly applied. The massaging of a cancer, or the manipulation of a tubercular joint would be decidedly wrong. Their proper applications only become possible with the advance of medical science. No one outside the walls of an asylum for the insane would think of resorting to rubbing the abdomen in typhoid fever or manipulating the curvical vertebrae as a cure for ague; and yet both such horribles are taught in works on osteopathy. The fact is that massage and manipulation are of much value in suitable cases; but the physician or surgeon should be the one who would decide the suitability of the case and the form and amount of massage and manipulation to be employed. It might be well to manipulate a joint that is swollen and stiffened as the result of a sprain; but most injurious to manipulate it in any way if the joint is swollen and stiffened from tubercular infection. In either case it would be the height of folly to manipulate the spinal column, as the osteopaths teach. It is, therefore, not folly, as contended by E. D. Heist, D.O., but sound practice, that osteopathy, if employed at all, should be placed under the control of the medical profession, as all recognized methods of treatment should be; and, as they are, at the present, in the great majority of instances.

E. D. Heist, D.O., contended that osteopathy had never been obliged to recant on any of its cardinal principles, while others advanced propositions one day to find them fail on being put to the test. It is a good thing to meet with a definite assertion such as this, for it cuts clean through the osteopathic position. Like the Medes and Persians of old, they are so perfect that they do not need to change their methods. The vision of the whole system of the treatment of disease and their theories on etiology came in such a clear and perfect manner to their founder that no change is called for. How wonderful all this is; and how completely it surpasses any of the imaginary fairy stories of childhood! While this is set forth as the glory of the osteopathic theory, we are told that the

medical profession sets up something to-day to be discarded to-morrow. The answer to this is that this is the law of progress and the only pathway that leads to the real goal. "They must onward still and upward, who would keep abreast of truth." It is through this ever progressive spirit that the science of medicine is where it is to-day. On the foundations laid by Harvey, Lister, Morgagni, we are still building. The last word was not said by Harvey on the circulation, nor by Lister on antiseptics, nor Morgagni on pathology; for we are still building on their foundations.

Criminality.

But E. D. Heist, D.O., said that it was folly to hold that any one who practised osteopathy was guilty of a crime. There need be no mincing of words nor blinking at facts. The osteopath who treats diphtheria by manipulating the cervical vertebrae and rubbing the neck,, instead of administering a dose of diphtheria antitoxine is guilty of a crime. Any one who would treat a case of malaria, as laid down in osteopathic text-books by manipulating the bones in the neck, instead of giving a proper dose of quinine, would be guilty of a crime. To treat peritonitis by loosening up the spinal joints and massaging the abdomen would be guilty of a crime against the patient. Any one who would manipulate thoroughly and frequently the spinal joints, and particularly those in the neck, as ameans of treating cerebro-spinal meningitis, would be guilty of a crime. . It would be also a grave crime to carry the drugless treatment to the extreme of withholding from a syphilitic the curative value of preparations of mercury, iodine, and arsenic. No crime could be greater against a chcild suffering from gonorrheal ophthalmia than that of denying it the use of argyrol and giving it in lieu therefor some manipulation about the cervical vertebrae. It is too bad to be so cruel, but how would an osteopath feel if his child were treated in the latter way and was rendered blind as the result. Such a sad example would surely open his own eyes, though it had closed those of his child. If E. D. Heist, D.O., wishes other instances of osteopathic treatment that should be called criminal, I shall be glad to furnish them from the text-books laid down for students by the leading osteopathic colleges. I think I have given a sufficient number to do for the present. One thing may be positively said, that any one who weds himself to such a system should not be permitted to practise on his own responsibility.

E. D. Heist, D.O., pleads for a fair field and no favors. I shall accord osteopaths both. They are fully entitled to a fair field, and they are not entitled to any favors, for the very good reason that they set up a system of treating disease and a theory regarding the causation of disease, and both must be subject to the cold, dry light of scientific tests. I shall

now proceed to examine the entire theory and practice of osteopathy. Like Ephraim of old they may still remain wedded to their idols; but, in this case, all that shall be left them to worship will be fragments of their idols not even a whole one. Their arterial idol, their spinal lesion idol, their nerve pressure idol, their manipulation idol, shall be shattered; but, like the child in the poem about the old, torn, and dismembered doll, the osteopaths may still love the fragments of their theories; for there are those who love darkness rather than the light, and who love the old rags of an exploded theory to the sound garments of true science. E. D. Heist, D.O., said I struggled after everything but osteopathy. Now, I shall struggle after it.

Arterial Rule.

First, then, I shall take up the arterial theory of Dr. A. T. Still. In 1874, he stated his observations thus: "A disturbed artery marks the period to an hour, and minute, when disease begins to sow its seeds of destruction in the human body. That in no case could it be done without a broken or suspended current of arterial blood which, by nature, is intended to supply and nourish all nerves, ligaments, muscles, skin, bones, and the artery itself. The rule of the artery must be absolute, universal, and unobstructed, or disease will be the result." This passage is quoted approvingly in Dain L. Tasker's *Principles of Osteopathy*; and he would be a bold osteopath who would venture to state that Tasker is not a recognized authority. Further, E. D. Heist, D.O., admitted to Mr. Justice Hodgins that osteopaths still adhere to the teachings of Dr. Still.

This teaching of Dr. Still has been disputed, and the assertion made that it could be riddled. E. D. Heist said that if this could be done, why had it not been done? He is entitled to an answer. Let us take malaria as an example. A man goes into an infected area and is bitten by a mosquito, which introduces the plasmodium. Here the rule of artery has no place. Another has a fissure on a surface somewhere through which enter the spirochetes, and he has syphilis. Again, the artery has nothing to do with the disease. Once more, a woman is bruised on the breast, and in time a cancer develops, because epithelial cells were made to take on an abnormal form of growth. This, again, is an example where the rule of the artery does not come in. But another instance may help to convince the osteopaths. A man deposits a crystal from his urine in the palvis of his kidney. The crystal enlarges until he has a bulky calculus in his kidney. Here the artery had nothing to do with the trouble. But, not to be too hard upon the osteopaths, nor upon E. D. Heist, D.O., in particular, take a case of the common itch; and please state how the rule of the artery comes in. No. The whole contention of the rule of the

artery completely breaks down, leaving the osteopathic theory a poor, anaemic affair, and the ridicule of true scientific methods.

Spinal Column at Fault.

The next topic that demands attention is the contention of the osteopaths that so many of the diseases of the human body have their origin in some abnormal state of the spinal column, or its ligaments, or its muscles. A careful study of the definitions of osteopathy as laid down by A. T. Still, Mason W. Pressly, J. M. Littlejohn, E. M. Case, E. R. Booth, C. M. T. Hulett, and C. C. Reid, goes to clearly establish the belief in a large percentage of all diseases owing their origin to some lesion of the spine, and that these ailments can be cured by manipulation applied to it. Charles Hazzard is accepted as an osteopathic authority.

He declares with regard to asthma that "This disease always presents definite lesions, muscular and bony, of the upper dorsal spine and of the thorax." On bronchitis he has this to say: "Due to specific lesions in the upper spinal, arterior and posterior thoracic, and cervical, regions, These lesions may be bony displacements, muscular contractures, ligamentous derangement." As to the cause of hay fever, he gives us this: "It is caused by specific lesions in the upper dorsal, thoracic and cervical regions." On pneumonia his etiology is "specific lesions, bony, muscular, or ligaments, in the upper spinal, thoracic and cervical regions." As to pulmonary consumption he quotes from Still and McConnell to this effect. "The presence of the bacillus tuberculosis, and caused by specific lesions in the upper dorsal and thoracic regions." These lesions are found in the 2nd, 3rd, 4th, 5th, 6th, 7th and 8th ribs; 2nd and 3rd cervical vertebrae. Congestion of the lungs is due to "lesions in the upper dorsal thoracic, and cervical regions. On pulmonary hemmorrhage he has this to tell us: "There are commonly present lesions of the spine, ribs, cervical tissues, spinal tissues, etc, affecting the area of innervation of the lung." With regard to emphysema we are told that "The lesions and anatomical relations before observed in lung disease may be recalled here." With regard to coryza this is stated: "The specific lesions causing such disease are, as a rule, high in the cervical region, 1st to 3rd cervical vertebrae, but they may occur as low down as the sixth dorsal." Turning to the cause of pleurisy we find this: "The important lesions in these cases affect the ribs; cases are rare in which lesions of this kind are not present."

With regard to laryngitis we are directed to "The atlas, axis and third cervical vertebra." On stomatitis and glossitis regardless of kind, this is asserted: "In these cases there is generally lesions to the bony or other tissues in the cervical region." Parotitis, tonsilitis, and diseases of salivary glands are traced to lesions in the cervical vertebrae, which disturb the nerves.

In a list of diseases of the stomach the cause is laid to the charge of lesions of the ribs and dorsal vertebrae. In gastric ulcer we are told to "look to the condition of the 8th and 9th ribs anteriorly, and of the 5th to 8th ribs posteriorly." For duodenal ulcer we are told "It is the homologue of the gastric ulcer, and probably originates in the same way." A like set of statements are made regarding a number of diseases of the intestines. On the cause of cholera morbus this is stated: "Such lesions as described for enteritis are present in these cases," which means "lesions anywhere along the splanchnic area and along the spine as low as the coccyx." On appendicitis this statement is made: "An inflammation of the vermiform appendix, acute or chronic, caused by traumatism, or by specific rib or spinal lesions." As to the causes of peritonitis this is said: "The lesions expected in such cases are to the lower ribs, the lower dorsal and lumbar spine, and sometimes the pelvis."

On gall stones, this very illuminating remark is made: "The lesions found in these cases are usually low down in the splanchnic area, affecting the lower four ribs. Lesions of the 11th and 12th vertebrae may not be too low to cause it." With regard to splenitis we have this, taken from Still: "Lesions occur in downward and forward luxations of the 6th to 12th left ribs." Diseases of the pancreas are due to "lesions commonly found affecting the pancreas are those occurring at the lower ribs and to the lower dorsal vertebrae."

In acute nephritis "lesions occur preferably from the 10th dorsal to the upper lumbar, but may be either higher or lower. Cervical lesions, as low as the 3rd or 4th vertebrae, may occur." With regard to renal calculus we are told that "lesions from the 10th dorsal to the 11th lumbar, including those of the lower two ribs, are the most frequent in these cases." Coming to cystitis the author asserts: "Lumbar and sacral lesions predominate in bladder troubles." On heart diseases this is said: "Lesions are found in the cervical vertebrae, the clavicle, the ribs, and the muscles. In pericarditis, palpitation, angina pectoris, endocarditis, and valvular disease there is the same attempt to drag in spinal or rib lesions.

On the diseases of the nervous system the author has remarkable views. On chorea he tells us that it is "due to spinal lesions interfering with motor functions of brain or cord." Migraine from an osteopathic point of view "is generally found to be due to cervical bony lesions." With regard to paralysis agitans we meet with this: "The lesions found in this disease usually occur in the cervical and upper dorsal region, and among the ribs." While discussing thirty-four types of paralyses the author states. "They illustrate also what experience shows to be a fact, that displacement of spinal vertebrae occurs as the real cause in a majority of the cases of paralysis." On neurasthenia, hysteria, and insomnia we meet with much of the same sort of teaching. On infantile paralysis

we are told that "In the majority of these cases of infantile paralysis, lesions of the cervical vertebrae, especially the atlas, axis, and upper vertebrae, is found." Passing over a number of other diseases we come to insanity. He cites a number of cases and then states: "The cases are illustrative of osteopathic practice in insanity, numerous cases of which come under treatment. As a rule bony lesions are found. Sometimes lesion exists in the form of merely muscular contracture in the cervical region. The lesions are generally in the cervical region."

On goitre we meet with some very astounding statements, but this will be a good sample by way of etiology: "The lesions bear, in conformity with the above view, a close anatomical relation to the disease. They are generally bony lesions of the cervical and upper thoracic regions, consisting in displacements of the middle and lower cervical vertebrae, of the clavicle, or of the first rib." We pass over the varieties of rheumatism, gout, arthritis, obesity, where the needle of the osteopathic compass still points to the spine, and we come to diabetes. Now listen to what the author has to say: "Lesions causing diabetes are usually bony lesions along the spine from the middle dorsal to the lower lumbar region."

When we come to the infectious diseases we reach the climax of osteopathic absurdity. This on diphtheria is a masterpiece: "The lesions usually found in such cases are muscular and bony lesions of the neck." These, the author contends, give rise to catarrh and this favors the onset of diphtheria. On whooping cough we are given this: "In whooping cough, as in croup, the contraction of the omohyoid muscle, drawing the omohyoid bone against the pneumogastric nerve, is important, as is also the contraction of the cervical tissues drawing the first rib back, and disturbing the central articulation." On malaria Hazzard quotes from McConnell and still to the effect that there are spinal and rib lesions. Then he says: "Malaria is a disease which, although due to the activities of a specific germ, the hematozoon of Laveran, yet presents marked bony lesions, which account for the manifestations of the germ within the system." On typhoid fever the author quotes Dr. Still to the effect that there is "a posterior prominence of the lower lumbar region, caused by a backward displacement of the 3rd, 4th, and 5th lumbar vertebrae." From this there is a deranged nerve control over the bowels, and the inflammation and necrosis of the patches result. It would be a waste of time to go through other infectious diseases to show how Dr. Hazzard tries to show that some form of lesion, generally spinal, is the real cause of these diseases, by so deranging nerve and blood supply that the organisms are enabled to set up disease.

We have quoted at length from Charles Hazzard because E. D. Heist, D.O., said to Mr. Justice Hodgins that he was regarded as good authority

among the osteopaths. Many other authors could be quoted, however, to substantiate Dr. Hazzard, such as Murray, Tasker, Hollis, Webster, Burns, Still, McConnel, etc.

Spinology.

It has now been made abundantly clear that the osteopaths look to the spine as the great factor in the etiology of disease. This view may be held up to derision and scorn. It has absolutely not a shadow of a leg to stand upon. Sometimes there may be an abnormality in the spinal column but such plays no part in the production or etiology of diseases, other than some local affection that can be traced to the said abnormality. For one to lay to the charge of such occasional abnormalities such diseases as the many infections, the insanities, the neuroses, the constitutional disorders, new growths, atrophies, skin diseases, parasitic affections, and the inflammations, is nothing short of stark madness. We hope we have not been too hard upon osteopathy and E. D. Heist, D.O., but he has thrown down the challenge, and we gladly accepted it.

The term "spinology" was employed in discussing the claims of osteopaths and chiropractors. To this term E. D. Heist, D.O., put in a disclaimer. Let us see whether he or the latest announcements of the osteopathic colleges are to be taken as the authority on this subject.

In the announcement of the Des Moines Still College of Osteopathy for 1916-17, on page 40, this is found: "Here again we, as osteopaths, part company with the medics. The most important consideration with us is the bony structure, its regularities and irregularities and deviations from the normal. We centre our examinations upon the spine, they avoid its complexities." According to this brilliant announcement, the medics (regular doctors) avoid the spine. It is too complex for them. In the announcement of the Massachusetts College of Osteopathy, 1916-17, on page 18, this is stated: "A thorough knowledge of the physics of the spinal column is a pre-requisite to the successful application of the art of osteopathic technique."

In the announcement of the Philadelphia College and Infirmary of Osteopathy for 1916-17, on page 33, this will be found: "Lesions of all articulations are considered, but particular attention is paid to vertebral and rib lesions. Each joint from the occiput to the coccyx, including sacro-illiac, is considered separately." Finally, in the announcement of the American School of Osteopathy, Kirksville, Missouri, for 1917-18, at page 45, the position of this cult is thus set forth: "It is not claimed that spinal lesions are the sole cause of disease, but that they act chiefly as predisposing factors in interfering with the nerve supply to the organs involved in disease, thus lessening the resistancve of such organs against

infections and irritations from toxins." Here one meets with spinology first, last, and always.

In a recent and important work on Clinical Osteopathy, edited by Carl P McConnell, and published by the A. T. Still Research Institute, of Chicago, there are some clearly expressed opinions regarding the influence of the spine. Dealing with disease of the digestive system this is stated: "Bony lesions of the mandible, hyoid, acciput, atlas, axis, other cervical vertebrae, the first and second ribs and the clavical are efficient causes for disturbed function of the nerve centres which control the secretion, circulation and nutrition of the mouth, tonsils, salivary glands and pharynx and esophagus." (Page 13). Then again on page 14 this is found: "When bony lesions of the acciput, upper cervical and mid thoracic spinal column, the ribs or the mandible are present, or when there is any lack of normal mobility of the articular surfaces in these areas, the gastro-enteric centres either fail to receive their normal stimulation or they are acted upon by irritating streams of sensory impulses." On page 134, among the causes for diseases of the vascular system, we find this: "Abnormal positions of the first to the fifth thoracic vertebrae and ribs." If one turns to page 181, dealing with respiratory diseases, this appears: "Bony lesions of the cervical and upper dorsal region are important factors in modifying the circulation and lowering the resistance to infection." If one looks for what this book has to say about the spine and kidney disease the following will be found on page 245: "The vasmotor nerves for the kidneys and the suprarenals are derived from the eleventh and twelfth thoracic segments of the spinal cord. Vertebral or costal lesions affecting these segments are very important factors in modifying the circulation through the kidneys, and thus their secretion and nutrition." Much more like this rubbish could be quoted from this work of McConnell's.

A few words may be given to the views of A. S. Hollis, D.O., for some time professor of the principles of osteopathy in the School of Osteopathy, Kirksville. After asking several questions about the term lesion, he remarks, on page 7, thus: "In answer to these and similar questions we would say that an *Osteopathic Lesion* is a condition which is found in the spine associated with disease and serving as a causative factor of it. It is an abnormal condition of the ligamentous and other articular structures of such a nature that the movements between the vertebrae become perverted."

G. V. Webster, who is an exponent of osteopathy, with his home in Carthage, New York, has collected a number of articles and sayings about osteopathy in a book called "Concerning Osteopathy." In this book, on page 74, there is a quotation from M. A. Lane, who is regarded

as a leading authority on osteopathy. This is what he says: "Dr. Still found that manipulation of the spinal column and its dependent tissues produced certain startling and special reactions, and this was strikingly the case whenever there was in the backbone any visible or palpable irregularity, lesion or deflection. His studies of the spinal mechanism led him to the conviction that virtually all so-called diseases, pains, symptoms and so on were indirectly caused by these spinal lesions." M. A. Lane writes this and G. V. Webster thinks so much of it that he quotes it, and gives it the prominence of an entire page to itself.

But now let us take A. T. Still himself. On page 164 of G. V. Webster's book this quotation from Still occupies a whole page: "To the osteopath, his first and last duty is to look well to a healthy blood and nerve supply. He should let his eye camp day and night on the spinal column, and he must never rest day or night until he knows that the spine is true and in line from atlas to sacrum, with all the ribs known to be in perfect union with the processes of the spine."

In the face of all these authorities, E. D. Heist, D.O., should not complain about the use of the term "spinology." In the causation of diseases and in their pathology, the spine is the fountain and origin of all evil; and all treatment is directed to the adjustment of spinal lesions or malpositions. That this is correct the following words from George A. Still, Jr., full bear out: "Osteopathy to-day represents the substitution of spinal treatment for internal medication." (Webster, page 230).

The evidence that has been furnished from the writings of osteopathic authors proves in the most conclusive manner that their pathology is of a most limited and unscientific character. Its general adoption would have the effect of putting the hands of the medical clock back to a period earlier than the Middle Ages.

Nerve Pressure.

The next position of the osteopaths on the causation of disease is what they have to say about nerve pressure. They set up the theory that displacements, subluxations, malpositions, and such like, of the skeleton, give rise to pressure on nerves, which in turn disturbs or deranges the circulation, and this, in turn, becomes the cause of almost all if not really of all diseases. On this theory let us call some witnesses. In the announcement of the American School of Osteopathy, Kirksville, on page 51, we read: "Osteopathy adjusts structures so that a healthy nerve and blood supply to the part involved allows it to combat or cure the diseased condition." Clearly the whole idea of treatment is a purely mechanical one along the line of nerve and blood supply. Then again,

on page 63 of the same announcement, this appears: "The osteopath believes that health can be restored by correcting the anatomical lesions." In the announcement of the Philadelphia College of Osteopathy, among other statements, we meet with this one on page 37: "Morbid anatomy is studied with special reference to vertebral and rib subluxations and their effect upon visceral life through nerve and circulatory connections." Here one finds the same doctrine of some pressure on nerves as the main cause of diseases. In the announcement of the Massachusetts College of Osteopathy, on page 9, we have this: "He goes more deeply into the origin of disease than does the physician of the older schools, and finds in the obstructed nerve and blood supply the predisposing and actual cause of disease." This remarkable statement is made while speaking of the influence of microorganisms in the production of disease. In the announcement of the Des Moines Still College of Osteopathy, at page 48, we meet with this most astounding statement: "Review the great classes of diseases, infectious, constitutional, nervous, respiratory, circulatory, digestive, and neoplastic, we have an array of etiological factors as ordinarily given apparently overwhelming, but upon closer analysis they resolve themselves into one great cause, mechanical interference with nerve and blood supply." This is a clear-cut expression of the opinion that all disease arises from some "mechanical interference with nerve and blood supply"; and this mechanical interference is from some displacement or subluxation in the skeleton. In the announcement of the Central College of Osteopathy, Kansas City, on page 4, we find this: "In short, osteopathy is a common sense system of discovering and correcting all mechanical disorders in the human machine," and "osteopathic treatment gives its attention to the nerves regulating the blood supply to the diseased part."

In the leading text books on osteopathy one encounters similar statements. On page 25 of D. L. Tasker this is found: "Therefore, the first effort of the osteopath is to remove all obstructions to blood and nerve supply, feeling certain that when these obstructions are removed, health will follow." Adjustment and still more adjustment is the masterword of this cult. All through the Practice of Osteopathy, by Charles Hazzard, one meets with the same assertion of the presence of lesions, displacements, and subluxations, and the method of correcting these, and thus restoring the normal nerve and blood supply to the diseased part. One could keep on indefinitely multiplying quotations that the whole theory of osteopathy is built upon some perversion of the body from a mechanical point of view. A. T. Still said: "Osteopathy deals with the body as an intricate machine, which, if kept in proper adjustment, nourished, and cared for, will run smoothly into a ripe and useful old age." In the vast majority of instances bodies are nourished and cared for, and

therefore, the reason they do not reach a ripe old age must be something wrong with it as a machine, some osteopathic lesion, some displacement or subluxation, or something of that sort. Such teaching is simply monstrous, and as a teaching in medicine, little short of the criminal.

In a recent number of "The Journal of Osteopathy," Arthur G. Hildreth gives us views on the treatment of insanity. They are so unique that they will bear repeating. "Our treatment is practised in accordance with the osteopathic theory which maintains that the human body is the best laboratory in the world, needing no curative agencies outside of its own vast stores. Our treatment of insanity is largely based on the fact that the displacement of some bone or certain vertebra has interfered with the nerves that control the blood supply to the brain. In fact, the whole theory of osteopathy is little more than this, that when some bone is displaced ever so slightly the flow of blood is interfered with and the natural remedies that are in the blood fail in their supply." If one will carefully analyze this statement it will be found to be a mass of absurdities and crudities of the most disgusting character.

For a piece of profound nonsenese the following statement by S. W. Robuck, of Chicago, may be given first place: "By correcting adjustments of the spine, osteopathy materially assists nature in establishing immunity either before or during infection, for to adjust the spine is to normalize circulation and secretions." It is not possible to find words that are adequate to sufficiently condemn such teaching.

In a number of Osteopathic Health, published in Chicago, there is recorded the case of one who was cured of cataracts "by a process of adjustment; the nerves of the eye which are found in the cervical and thoracic regions were released from constrictions and restrictions by the usual adjustive manipulations prescribed in osteopathy. The nerves resumed business, fed the eye, and the cataract was eaten up." Surely this must be taken as the acme of folly; and yet it is people holding such views that are seeking the right to practise in this province and clamoring for legal recognition to attend our hospitals and issue death certificates. It will be seen by the quotations taken from recognized text books, from the college announcements ,and for current osteopathic journals, that the views of the osteopaths on nerve pressure and manipulation, as a means of curing it, should have no place in the domain of modern science or thought.

It has long been known to the medical profession that occasionally a nerve is subjected to pressure by a tumor near it, or by some growth from a vertebral bone, or by a thickening of the structures around a foramen through which it may pass, but these cases are rare, and they do not constitute a ground for a new system of medical practice. I have made careful enquiry from X-ray specialists ,and they inform me that

in all the plates they take of the body, for all conditions, only very rarely do these plates reveal any abnormality in the spinal column. The entire foundation upon which osteopathy has been built is a pure myth. It is an *ignis fatuus*, and the more one follows it, the further he is led into the quagmires of mental aberration.

Now, but a few words on manipulation. There are people who think they have some disease, who are in error. They have a pain in the back, and they think they have kidney disease. They are nervous, and they think they have some spinal cord affection. They have some ordinary ailment of the eyes, and they think they have cataract. In all such cases a little manipulation may make them feel better along the line of suggestion. A person with constipation may be benefited by manipulation, but would be benefited to a greater extent by proper reuglation of diet and sufficient exercise, as a goodly amount of walking. Every practitioner has met with scores of such cases as the foregoing. They are the ordinary migrants that go from office to office and often seek the aid of all sorts of irregularities. To meet the whims of such it is attempted to set up several sets of new practitioners, as the Christian Scientist with his magic mind cure, the osteopathic with all-curing adjustment, and the chiropractor with his miracle achieving spinal thrust. When reduced to the last analysis the main ingredient in each of these methods of healing is suggestion.

Osteopathic Pathology.

Let us now examine a little into osteopathic pathology. In the announcement of the Philadelphia College of Osteopathy, on page 37, this is laid won: "Osteopathic pathology differs in its interpretation and application from pathology as usually taught in medical schools. Morbid anatomy is studied with special reference to vertebral and rib subluxations and their effect on visceral life through nerve and circulatory connections." Again, on page 57, under Bacteriology, we find this: "He reasons that a perfectly normal body is insusceptible to germ invasion, and as some form of anatomical defect is the basis of all diseased conditions, that the virulent germ in a given case is but an exciting cause and is not the prime factor." Such teaching is a disgrace to this century.

Turn now to the American School of Osteopathy, the one founded by A. T. Still, and you will find the following gems of modern science: Page 30: "It was stated many years ago by Dr. A. T. Still that the body had within it all of the necessary properties to care for its various functions in disease as well as in health." On page 30 this appears: "The general purpose of vaccination and serum therapy is to increase the activity of the antibody forming organs of the body. It has been demonstrated that the same results may be obtained by osteopathic treatment

without the use of serum therapy, and that the results obtained are more satisfactory.'' On page 51 we have this: ''Osteopathy adjusts structures so that a healthy nerve and blood supply to the part involved allows it to combat or cure the diseased condition.'' Comment on such views would be futile, as they are outside the pale of discussion. They are too absurd to be considered.

In the announcement of the Massachusetts College of Osteopathy we find on pathology the following expressions: On page 10: ''Frequently there are slight derangements in the alignment of the vertebral column and consequent pressure upon the related delicate nerves, controlling the activity of the vital, internal organs.'' On page 17 we have this: ''The osteopathic lesion is not a gross affair, but something to be measured in fractions of inches.'' On page 18 this occurs: ''A thorough knowledge of the physics of the spinal column is a pre-requisite to the successful application of the art of osteopathic technique.'' On page 20: ''The student is led to see the relationship between anatomical derangement and functional or organic disease.'' These are certainly precious tit-bits on the pathology and causation of disease.

From the Des Moines Still College of Osteopathy we extract the following from page 31: ''But we must go further, proper blood supply and innervation is absolutely necessary to the health and function of any organ. We know that subluxations and deviations in bony structure are a most fruitful source of gynaecological disease.'' On page 48 we find this: ''We believe that the etiological factors of all diseases are essentially mechanical, the medical man believes they are principally chemical.'' We would like to know where this ''belief'' about medical men is to be found. But the authorities of the Massachusetts College seem to be as hopelessly at sea as those of other osteopathic colleges.

In the announcement of the Chicago College of Osteopathy we meet with a very definite statement. It is found on page 11, and reads: ''The principle upon which the science of osteopathy is based is 'adjustment,' in whatever field the mal-adjustment may occur, whether it be structural, environmentatl, mental or dietetic. It is the belief and teaching of osteopathy that disease has its basic origin in a variation from normal in one of these fields ,and the application of the principle is to seek out the 'mal-adjustment' and, if possible, correct it wherever found.'' Here, then, the pathological etiology of disease is to be found in something in structure, in the surroundings, with the mind, or in the diet. It will be realized at once that when this theory is put to the test it completely breaks down. Though it has elements of truth in it, it is far from containing the whole truth. On page 28 we find this: ''Osteopathic therapy can and does modify or prevent, palliate or cure, the effects of the invasion of the body by pathogenic bacteria.'' Now, be it remembered that

"osteopathic therapy" consists in "manipulations" for the "adjustment" of "mal-adjustments." This is a most astounding view on how to produce immunity and rid the system of pathogenic bacteria. Truly may we exclaim with Hamlet, " There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy."

Under the heading of Pathology, A. S. Hollis, D.O., quotes on page 13 from the Bulletin of the Atlas and Axis Club for October, 1912, as follows: "We know, from clinical experience, that there is developed around the articulations of the vertebrae a tissue perversion either antecedent to or concomitant with disease of the organism elsewhere. This tissue perversion is manifested by impaired mobility of the spine, and the restoration of a normal degree of movement between the articulations means that the tissues have been normalized in this region." Surely such utter nonsense as this cannot be permitted to pass unchallenged. Instead of proving the perversions of the spine, it proves that osteopathy has completely perverted the whole science of pathology.

As Carl P. McConnell, the editor of the work on Clinical Osteopathy, is a recognized authority on osteopathy, a few quotations from this work may be appropriate. On page 27 the subject of acute parotitis is discussed, among other things this is said: "Bony lesions affect the secretion and the circulation of the salivary glands." For a pure morsel of absurdity we find this on page 41 concerning chronic gastritis: "The most important bony lesions are those of the fourth to the ninth vertebrae and the corresponding ribs, the lesions of the cervical region and of the first and second ribs and the clavicles. These act, probably through the related nerve centres, upon the stomach, affecting its secretions, muscular movements, nutrition, and circulation." On page 150 augina pectoris is taken up. Among causes this is mentioned: "Spinal luxations which have been found in these cases are those of the atlas, the cervical region and the upper dorsal area." In dealing with bronchopneumonia, on page 214, this statement is made: "Look carefully for upper dorsal lesions above the eighth, also the corresponding rib lesions, which are so often found in conjunction." On page 248 acute nephritis is discussed, and among the causes this is laid down: "The bony lesions are factors in producing acute nephritis. Blows or strains affecting the eleventh and twelfth thoracic vertebrae and the corresponding ribs are important." In the general discussion on diseases of the spinal cord on page 352 note this: "There is very good reason for believing that bony lesions exert a detrimental influence upon the circulation in the meninges, and at least indirectly upon the circulation in the segments of the cord." On epilepsy, at page 409, we find this: "It is very rare to find a case of idiopathic epilepsy in which there is not a lesion of the

occiput or the atlas." Dealing with tuberculosis we find, on page 459, this remark: "The most important predisposing factor is the bony, muscular, or ligamentous lesion. Practically every person who suffers from any tubercular infection has diminished flexibility of the lower thoracic spinal column."

We cannot waste any more time over "the wild and wandering cries" of Carl P. McConnell. These quotations have been taken at random, but the book is full of others of a similar nature. They prove most conclusively that osteopathy is not a science of either pathology or therapeutics, but a weird jumble of unverified and unverifiable assertions. To medical science they occupy the same position as that of a large book that was written a number of years ago, called the Parallax, to prove that the earth is flat, and that the sun revolves around it, does to astronomy. To promote such nonsense already $100,000 has been raised to endow the A. T. Still Osteopathic Research Institute in Chicago, and it is stated that it is the intention to try to raise $1,000,000 for this work.

Now, let us turn our attention to A. T. Still's teachings on pathology. We shall try to set forth his views in his own words; and the following will suffice: "I believe that the Maker of Man has deposited in some part, or throughout the whole system of the human body, drugs in abundance to cure all infirmities; that all the remedies necessary to health are compounded within the human body. At times some seemed to be out of reach, but by a close study I always found them." This would strike most people as a very sweeping assertion, and points to a degree of skill that verges on the uncanny. But, again, take this: "When all parts of the human body are in line, we have perfect health. When they are not, the effect is disease. When the parts are readjusted disease gives place to health." One wonders what sort of a training Dr. Still's mind must have had that led it up to the enunciation of such prutescent teaching. But, again: "On every voyage of exploration I have been able to bring a cargo of indisputable truths, that all remedies necessary to health exist in the human body." Such a view can only call for pity. There is really no argument against such absurdity. As a fine example of one's enthusiasm running away with his reason the following is a good instance: "Osteopathy's own philosophy of surgery, midwifery and general treatment is complete and defies refutation." This goes one better than Mrs. Eddy, who claimed that "Science and Health" was the book in the hand of the angel seen by St. John.

One could keep on quoting from the writings of osteopths to show how erroneous their views are on the etiology and pathology of disease. A few sentences from an article by G. M. Laughlin, D.O., dean of the

American School of Osteopathy, will suffice, and found at page 77 of G. V. Webster's book: "From an osteopathic point of view, a lesion is any abnormality of structure which interferes with function." "When there is the least particle of abnormality of position of spinal structure or when there is a change in the relation of bones, ligaments and muscles, these conditions constitute lesions." "If there is any interference to the blood supply on account of spinal lesions, the nervous impulses will be weak and the individual will not be in good health." "We find the principle for most of our chronic ailments to be either reduction of vitality at the nerve centre due to interference with nutrition or some mechanical interference with the nerves themselves." "All lesions found along the spine do not result from injury or trauma. Strain is one cause, overwork, exposure and many times infectious diseases, where the individual is extremely ill for a period of time; all these are causative factors which will produce a warping and twisting of the spinal column and bring about maladjustment. Chronic diseases come on as a result of these slowly developing lesions." "New tissue forms about the site of the lesion, causing adhesions at that point, and as these adhesions thicken, the ligaments and muscles lose their elasticity, stiffen and harden, maintaining the lesion."

For a masterpiece of the osteopathic teaching on the physiology of the nervous system, and on the etiology and pathology of disease, the following, found on page 94, of Dr. Still's autobiography must be admitted to take foremost place. Such a statement may amuse and please osteopathists, but it is the very antithesis of science. The nerves do not carry fluids, and diseases do not arise, as stated in the following passage, by the nerves failing to conduct the fluids of the body:

"There is no such disease as fever, flux, diphtheria, typhus, typhoid, lung-fever, or any other fever classed under the common head of fever or rheumatism, sciatica, gout, colic, liver disease, nettlerash, or croup, on to the end of the list, they do not exist is diseases. All these separate and combined are only effects. The cause can be found and does exits in the limited or excited action of the nerves which control the fluids of part or the whole of the body. It appears perfectly reasonable to any person born above the condition of an idiot, who has familiarized himself with anatomy, and its working with the machinery of life, that all diseases are mere effects, the cause being a partial or complete failure of the nerves to properly conduct the fluids of the body."

The foregoing statements might be palmed off upon the uneducated in medical subjects, but they present a terrible travisty upon medical science to the educated doctor. The man who knows his anatomy, physiology. pathology, and clinical medicine cannot but look upon such state-

ments with both contempt and disgust. They constitute the grossest possible distortion of the etiology and pathology of disease.

Osteopathic Case Reports.

I have examined many of the case reports of osteopathic practitioners with the object of determining the merits of their claims and the range of applicability of the system.

Take this case from "Practice of Osteopathy," by Charles Hazzard, page 77: "Male, aged 43, 3rd, 4th, 5th and 6th dorsal vertebrae posterior, especially the 3rd. The cervical muscles were badly contracted, due to the atlas being displaced to the right." Relief in this case was secured "by pressing the dorsal vertebrae forward, throwing the upper ribs and clavicles forward." To begin with, the bones of the spinal column cannot be moved at pleasure. In the next place, the atlas would not be displaced to the right. Such things do not happen, except as the result of accident, which reveals the conditions in some other way than asthma. Finally, asthma is a disease with many peculiarities in its clinical history. It may come on suddenly and suddenly abate.

A case of pleurisy is reported on page 111 thus: "The case was developed by the irritation of the eighth and ninth left ribs, which were luxated by continued bending over at his work. Correction of the lesion cured the case." It may be said definitely that stooping at his work, that of dentistry in this case, did not luxate or displace his ribs. Such a view is untenable. Then any irregularity in the shape of one's ribs do not cause pleurisy. Such a view of etiology is pure nonsense. If one meets with an injury and fractures his ribs he may have a pleurisy. In the last place, pleurisy usually tends to recover, so it would be quite erroneous to speak of manipulating the ribs as having *cured* the case.

On page 162 this case is reported: "Constipation and piles of many years' standing, caused by a bent coccyx. Four treatments gave great relief." It may be noted here that constipation and piles are not caused by a bent coccyx; and that a surgical operation is the only way by which a bent coccyx can be straightened. Then, anyway, an attack of constipation and piles is often a matter of short duration.

On page 167 a case of appendicitis is thus recorded: "Lesions; 2nd lumbar lateral, with heat and pain about it; 11th right rib luxated. Treatment relieved at once, and the patient was cured in two weeks." Now the so-called lesions mentioned had nothing to do with the appendicitis; and to say that they had is to discredit one's intelligence. Moreover, it is common enough for an attack of appendicitis to recover in two weeks.

On page 330 there is the mention of the following case: "Total

blindness with paralysis of lower limbs, formication of upper limbs, etc." The lesions in the vertebrae and ribs are given, and then this statement: "Under the treatment the sight was entirely restored. Speech had been lacking, but was restored, and the paralysis was cured." Here we have the complete ear-markings of a hysterical case, namely, blindness, loss of speech, formication, paralysis and recovery through suggestion following some manipulation.

Many other cases could be quoted from Charles Hazzard's book; but these few are ample to show the type of cases paraded before the reader. They fall into groups such as: Those that recover in a limit of time; those that may be benefited by rubbing as are well known to the medical profession; and those that are hysterical in character where the manipulation acts by suggestion, a treatment well known and made use of by the medical profession.

The following case is taken from the *Journal of Osteopathy*: A young girl of 14 met with an injury to her back, and became paralyzed and blind. In three months she regained sight, but remained paralyzed. It is stated that six physicians said there was compression of the cord, and that she could not recover. Was treated for three years, when she was taken to an osteopath. The osteopath states that there was "no motion or sensation in lower limbs," and there was "a slight knuckle-like projection at the eleventh dorsal vertebrae." Then this follows: "I replaced the vertebrae and next morning the patient greeted me with, 'O, doctor! I can wiggle both big toes.'"

Here one clearly sees the word hysteria written all over the case. First, there is a girl of 14 injured, and for three months she is blind, but recovers sight. In the next place ,she is paralyzed in both legs, there being loss of sensation as well as motion. This means either a pure nervous condition, or a transverse damage to the cord. If a damage to the cord, after a lapse of three years there would be degeneration of nerve matter, and in a few hours after her first treatment she could not "wiggle her big toes."

This sort of story is in keeping with the statement made in the same *Journal of Osteopathy* that George Laughlin, of Kirksville, Mo., "had treated 1,000 cases of pneumonia with osteopathy without the loss of a single patient." This is certainly a whirlwind record. The announcement of the American School of Osteopathy, Kirksville, gives one George M. Laughlin as Dean of the Faculty of said school. We leave the decision on such a record to the man on the street.

While discussing cases let us give this from page 339 of Charles Hazzard's book: "In cataract the treatment looks to the absorption of the cataract through increased circulation. Cervical treatment, removal

of lesion, and local treatment about the eye and upon the fifth nerve, all as before described, have successfully accomplished a cure in these cases. In such cases, Dr. Still says that the crystalline lens is disarranged. He holds one finger close against one side of the eye-ball, with the lid closed, and thumps this finger with the index finger of the other hand, to jar the ball and straighten the lens."

This quotation we thought too humorous to let pass unnoticed. This method of placing the lens where it belongs is truly original enough to do honor to Dr. Still. But another humorous feature of the treatment is that there are no nerves or vessels in the lens for the osteopathic theory to work on.

TREATMENT.

But not to limit our case to the teachings found in Charles Hazzard, we will make a few extracts from another writer. In Clinical Osteopathy, edited by Carl P. McConnell, for the A. T. Still Research Institute, and of the date of 1917, we meet with the following:

Carcinoma of the Esophagus. "The patient may be made more comfortable by thorough treatment from the acciput to the eleventh dorsal." (Page 30).

Gastric and Duodenal Ulcer. "Structural corrective work must be done until the spine and its associated structures are in normal adjustment, paying particular attention to the area of the sixth dorsal." (Page 46).

Chronic Entero-Colitis in Cholera. "The correction of the bony lesion as found, with increased mobility of the ribs and the lumbar spine, usually give better appetite, better sleep and better digestion." (Page 88).

Cardiac Hypertrophy. "If excessive, lessen the force and number of cardiac pulsations by deep steady pressure at the third and fourth dorsal vertebrae, correcting any lesions present. Note the position of the first ribs, clavicles and lower ribs." (Page 48).

Anteriosclerosis. "Increasing the mobility of the dorsal spine and the chest with elevation of the ribs is indicated. Whatever luxations are present should be corrected." (Page 173).

Broncho-pneumonia. "Look carefully for upper dorsal lesions above the eighth, also the corresponding rib lesions, which are so often found in conjunction." (Page 214).

Acute Cystitis. "The treatment should include the relaxation of the reflex muscular contractions, correction of lesions as found, and such movements as increase the mobility of the lumbar and pelvic bones. The leg movements are very efficient in relieving tension." (Page 266).

Myxedema and Cretinism. "Definite permanent improvement has been noted following adjustment of upper dorsal and cervical lesions, even when the use of extract has failed." (Page 301).

Purpura. "Raising the ribs, and the correction especially of lesions of the thoracic spine are always indicated; care must be taken to avoid strenuous movements." (Page 311).

Hysteria. "The spinal and costal lesions should be corrected by means of movements which do not add to the irritation of the conditions already present. Care must be taken in giving osteopathic treatment to avoid securing too great relaxation of the spinal ligaments." (Page 396).

Epilepsy. "In idiopathic epilepsy the upper cervical and occiput lesions must be corrected." (Page 411).

Tuberculous Peritonitis. "Special attention should be given the lumbar and dorsal spinal regions, that there is no undue muscular contraction, and that there are no spinal or rib mal-adjustments." (Page 473).

Whooping Cough. "If the physician sees the patient early he may abort the disease. Treatment of the whole respiratory tract with correction of vertebral and rib lesions and relaxation of any contracted muscles should be given. A subluxated atlas and axis are especially harmful." (Page 493).

Variola. "Remove all bony and muscular lesions found and pay strict attention to the lower thoracic spine and ribs." (Page 544).

Measles. "The treatment includes the relaxation of the contracted muscles, adjustment of bony lesions as found, raising the ribs and increasing the mobility of the thorax and especially of the dorsal region." (Page 558).

Malaria. "During the chill give vigorous treatment to the whole spinal column. Deep steady pressure at the eighth dorsal also assists in stopping the chill. During the sweating stage, deep steady pressure in the suboccipital fossa, treatment at the upper dorsal and first lumbar are all necessary." (Page 585).

Pneumonia, Engorgement Stage. "The treatment during this time must include thorough and frequent relaxation of the interscapular region and the lower thoracic region; increased mobility of the entire cervical and thorocic region; if possible, correction of the bony lesions as found on examination. During the stage of hepatization the treatment should follow the outline previously given for the first stage, plus efforts to maintain the oxygen intake." (Pages 501-503).

These diseases were taken at random as the book opened and without the slightest attempt at selection, a number of pages being turned

over at one time, and then taking the disease presenting on the page. Other features of treatment were laid down, such as pertained to diet, air, the use of water, giving of an enema, etc.; but the main feature to be noted is the attention devoted to the manipulation of the spinal column. In the diseases mentioned it may be safely asserted that malpositions of the spine do not occur, and, therefore, this feature of the treatment is pure humbug, and cannot but be a torture to the unfortunate patients.

Further, it can be asserted in the most definite and positive manner that subluxations or displacements of any kind of the spinal column, tumors or growths on any of its bones, or of the cord or its membranes, inflammatory deposits on the bones, softening of the bones from tuberculosis, cracking of the bones from injury, the presence of a gumma, or any form of organic disease, cannot be removed or remedied by manipulation. Further, it can be asserted that manipulation of the muscles or joints of the spine cannot in any way act upon the segments of the cord so as to bring about the nerve and vascular reactions that lie at the very foundation of the entire osteopathic theory. The brain and cord are so thoroughly protected that they cannot be reached or influenced by such external methods.

Osteopathic Gynaecology and Obstetrics.

Time and space will permit only of a few references to these subjects.

Dysmenorrhoea is treated by correcting lesions and displacements of the lumbar vertebrae.

Amenorrhoea is found to be due to malpositions in dorsal and lumbar vertebrae. When these are corrected the patients are greatly relieved and cured.

Menorrhagia is treated by the correction of subluxations and other malpositions of the lumbar vertebrae.

Prolapsus uteri is remedied by spinal treatment, such as removing displacements and correcting curvatures.

Leucorrhoea is also treated by giving due attention to some malposition or lesion of the spine.

In cases of salpingitis and ovaritis the treatment is attention given to the lumbar portion of the spine; but the dorsal spine may be at fault.

The menopause has all its terrors abolished by proper manipulation of the spine.

Phelgmasia alba dolens is usually cured by correcting any lesions around the hip joint, or innominate region.

In diseases of women lesions may be expected in the lower dorsal

vertebrae, the lumbar vertebrae, the lumbo-sacral articulation, the sacrum and coccyx, and the lower ribs.

Labor may be hastened by stimulating the parturition centre at the 2nd lumbar.

Dilatation of the os may be aided by inhibiting the clitoris by pressure over the lower part of the symphysis pubis between the labia.

If the bearing down pains are not regular and strong enough firm stimulation should be given at the 2nd lumbar.

Laceration of the perineum is prevented by pressing down the tissue over the symphysis and inhibiting the clitoris. The ischial tuberosities are sprung inwards.

For the expulsion of the placenta the upper lumbar region should be stimulated; a quick pull may be made on the mons veneris, and the patient may cough.

For after-pains the clitoris should be desensitized by pressure over the lower part of the pubic symphysis between the labia.

But, hold, enough of this worthless stuff! It would be an insult to any reader to quote more of it.

Osteopathy, Changing re Drugs.

It is always a good thing to take stock of the tendencies revealed by any movement such as the one now under consideration. The America School of Osteopathy, Kirksville, is the one over which Dr. A. T. Still is President. In the announcement of this school we find the following items of information: On page 8 we are told that "It has been but a little over forty years since Dr. Still announced to his patients at Baldwin, Kansas, that he had done with drugs forever, and that he had evolved a system of drugless healing." On page 9 there is a quotation of Dr. Still's writings, and from this we take a few words. "No material other than food and water taken in satisfaction of the demands of the appetite (not perverted taste) can be introduced from the outside without detriment." This, of course, is nonsense. There are a great variety of things that are neither food nor water that may be introduced into the body and with marked advantage to it, as witness quinine in ague, mercury in syphilis, antitoxine in diphtheria, vaccine in typhoid fever, etc.

This is the position taken by the American School of Osteopathy. It will prove instructive to note what other colleges do. The Chicago College of Osteopathy says: "Toxicology includes the study of all the common poisons and their action and treatment, including drugs and alkaloids." So we see they give drugs and alkaloids in treating poisoning. Then again the same college teaches "surgical asepsis and antisepsis." This calls for the use of chemicals. The same college gives a course of instruction on "all forms of anaesthesia, general, local and

anodynes." This is departing a good deal from the original doctrine of Dr. Still.

The Des Moines Still College of Osteopathy sets forth the fact that it teaches "the student the use and also the comparative value of the various antiseptics."

The Central College of Osteopathy, Kansas City, tells us that "By lectures and demonstrations the student is instructed in the use of the different forms of anaesthesia, general and local."

The College of Osteopathic Physicians and Surgeons, Los Angeles, announces that it gives courses of instruction on pharmacology, materia medica, and anaesthetics. This college has introduced into its curriculum practically all the subjects of the usual medical college, with a liberal share of instruction about drugs. But there is a saving clause "from the viewpoint of the osteopathic system." We see in this the clear tendency to approach the ordinary medical education, no doubt because the position laid down by Dr. Still is crumbling.

Osteopathy is being weighed and is being found wanting. To treat disease one must avail himself of every known means that experience and investigation has brought to light. If one is in pain he seeks relief. If ill with any disease, he should be given the benefit by any treatment that will do him good, whether it be a drug or some form of manipulation. To tie oneself down to any narrow view of disease or its treatment is the height of folly. To such a narrow view the osteopaths have wedded themselves ,and thereby have adopted an untenable theory of disease, and have deprived themselves of the results of much scientific achieve- have deprived themselves of the results of much scientific achievement and are depriving their patients of much valuable aid in the treatment of their diseases.

PITUITARY SOLUTION.

W. Wertenbaker, Wilmington, Del., (*Journal A. M. A.*, June 2, 1917), reports two cases of spontaneous rupture of the uterus following a single injection of one ampule in each case. They were treated within twelve weeks of each other in the Delaware Hospital. Both patients were multipara with completely dilated cervices, the membranes ruptured, and vertex presentation but with weak and inefficient contractions. Both pelves were practically normal. After operation both babies were found somewhat above the average size, ranging very little above or below 45 gm. One was colored, the other a foreigner. One patient died about an hour after the operation of removal of the ruptured uterus. Both babies were, of course, dead. One patient made a good recovery and was discharged the twenty-first day after the operation.

PERSONAL AND NEWS ITEMS

The American Society for the Control of Cancer recently adopted the following resolution: "Resolved, that the American Society for the Control of Cancer strongly commends the action of the U. S. Bureau of the Census in publishing its notable report on the mortality from cancer in the United States Registration Area in 1914, and records its appreciation of the courteous co-operation of the Director of the Census and all the members of his staff woh contributed to the compilation of this unique volume, which represents an unparalleled contribution to the statistical study of malignant disease, and has already furnished the basis for many promising special investigations."

The American Association of Pharmaceutical Chemists in convention at Atlantic City last week adopted a report in which it was declared essential that the Government be empowered to commission American concerns to manufacture German patented drugs under royalties, and the passage of the bill introduced in the Senate by Mr. Pomerene was urged.

Raymond and Parisot in their study of "frozen feet" have found evidences of a septic generalization in the blood, side by side with severe local manifestations. Autopsy sometimes showed the presence of mycelia in the blood. It is not inferred that all cases of trench foot represent a mycosis, but that in certain cases fungi are in evidence, side by side with bacteria. It will be recalled that in Pasteur's frozen-foot experiment the same fluid occurred.—*La Presse Médicale.*

On June 1st a conference on the control of venereal diseases was held under the auspices of the Edinburgh Public Health Committee. Sir Malcolm Morris, chairman of the Propaganda Committee of the National Union for Combating Venereal Diseases, the presidents of the Royal Colleges of Surgeons and Physicians of Edinburgh, and a representative from the Royal Infirmary, took part in the proceedings. The Edinburgh Corporation has now in preparation a scheme in accordance with the order issued last October by the Local Government Board for Scotland, to which reference was made in this column last month.

Sir E. Cooper Perry, physician to, and superintendent of, Guy's Hospital, has been elected vice-chancellor of the University of London, in succession to Sir Alfred Pearce Gould, who has held the office for two years.

Miss Edith Doolittle, daughter of Dr. Perry G. Doolittle, of Toronto, and Dr. C. P. Thomas, of New York, were married recently.

Dr. Thomas Futcher, of Johns Hopkins, and a former St. Thomas boy, has been associated with Sir W. Osler in an advisory capacity.

Lt.-Col. A. J. MacKenzie, of Toronto, who has been on active medical military service in France since the beginning of the war, has been given command of the Princess Patricia's Red Cross Hospital, London.

An appeal is made for funds in aid of the Belgian children. Any contributions sent to Mr. Goor, the Belgian Consul at Ottawa, will be forwarded to proper persons in Europe. The cause is a worthy one and also much in need of aid.

The ovation with which the French people greeted the American Mercy Corps of doctors and nurses was only equalled by the greeting the same people gave the British army when it landed in France in the early days of August, 1914.

The establishment by the American Red Cross in London of an up-to-date orthopedic hospital for American officers, the building for which was donated by William Saloman, of New York, provides what is believed to be the first hospital of its kind for officers. Similar institutions for privates are already in existence. The institution will treat disfigurements and deformities causd by wounds.

The School for the Deaf and Blind, Manila, Philippine Islands, is represented in the National Committee for the Prevention of Blindness through Miss Delight Rice, of that school, who has recently become a member of the committee. This demonstration of interest and confidence in the work of our organization from one so far away is encouraging. It is earnestly hoped that many others will follow her example.

A Royal Commission has been appointed in Holland to consider legislation looking toward prevention of blindness from all causes. The National Committee for the Prevention of Blindness has been requested to give all possible assistance in forwarding the work of this commission.

At the closing session of the June meeting of the Ophthalmological Section, American Medical Association, a resolution presented by Dr. F. Park Lewis was adopted which urgently directed the attention of the Federal Government's medical authorities to the danger of the spread of trachoma through men conscripted for the United States armies, and called for the exclusion of any who are found to be infected.

Major A. K. Haywood, formerly of the staff of the Toronto General Hospital, has returned from the front to accept the appointment of superintendent of the Montreal General Hospital. Major Haywood has been on active service since the outbreak of the war, going over as medical officer of the 3rd Battalion. He won the Military Cross at St. Julien. He came home to give evidence in a Toronto trial, but returned to England, and was placed in charge of the Canadian division of the Epsom Convalescent Hospital.

Dr. James Kivelle Newcombe, formerly of 79 Brunswick Avenue, Toronto, and who died in England of 19th March last, left an estate

valued at $67,857.44, consisting of $17,807.44 personality and $50,050 realty.

The Ontario Medical Council at its annual sessions elected Dr. W. E. Crain, president, and Dr. Ferguson, of London, vice-president. The registrat-treasurer is Dr. H. W. Aikins. Mr. H. S. Osler was appointed as counsel.

Dr. M. Helen Douglas is commander of Winnipeg's Women's Reserve Battalion, which has not only done patriotic work, but given its women military drill. She has just been appointed surgeon by St. John's Ambulance Association to take charge of a party of one hundred V. A. D. girls going to England about the middle of August for service in military hospitals. They will be mobilized in Toronto.

Dr. Roy P. Smith, formerly one of the internes of the Hospital for Sick Children, Toronto, was wounded in France on June 12th. He was struck by a piece of shrapnel in the left leg, and after eight days in the base hospital in France was removed to Fishmongers' Hall Hospital, London Bridge. Here he was X-rayed, but the shrapnel had all been removed. It is only a muscle wound. He was struck at the back of the left thigh, with on injury to bone or joint.

Dr. George Edgar Vincent is the new head of the Rockefeller $5,000,000 Foundation, established in 1913. Dr. Vincent was president of the University of Minnesota prior to accepting his present position. He is 53 years of age, and a native of Rockford, Ill.

Dr. R. W. Powell, registrar of the Medical Council of Canada, announces that the following physicians have successfully passed the examinations of the Medical Council of Canada held at Toronto during the week commencing June 19th. Alphabetically arranged they are: C. G. Birchard, M. F. Cogton, E. Couture, A. B. Holmes, I. R. McKendry, I. A. Young.

On Tuesday night, July 3rd, there was a fire at Petawawa artillery camp. About 10.15 the first started in one of the hospital buildings. Fortunately the patients were taken from the building and none was injured. Strenuous efforts were made by the commanding officer to save the structure, but it was burned to the ground before the limited facilities which are provided could be brought into use.

With full naval honors the funeral of the late Dr. Ernest Stirrett, former house surgeon on the H.M.C.S. Niobe, took place from the family residence, 423 Indian Road, Toronto, to Forest Lawn Cemetery, at 2 o'clock 25th June.

A special hospital train with about 150 wounded soldiers left Halifax an 3rd July and went right through to the Pacific coast, travelling via the Intercolonial to Moncton, Grand Trunk to Winnipeg, and C.P.R.

to Regina, Calgary and Vancouver. The train consisted of five hospital cars, a Red Cross car, a diner, a sleeper and baggage car. Captain J. B. Lambkin went through on the train to its destination, looking after the welfare of the men. This is the first through soldiers' special that has gone from Halifax to the coast.

An analysis of a bottle of "Hall's Wine," taken from the Ruthenian Company's store, Royce Avenue, Toronto, showed the contents to contain 31.33 proof spirits, and as a result Jacob Axler, the manager, was charged with keeping liquor for sale contrary to the Act.

Owing to the ill health of Dr. J. O. Orr, manager of the Canadian National Exhibition, the board granted him leave of absence for a time.

Right Hon. Walter Long, Colonial Secretary, opened on 5th July the new extension of the Ontario Military Hospital, the capacity of which is now doubled, with accommodation for 2,800 beds. Among those present were Sir George Perley, Canadian Overseas Minister of Militia, and the Agents-General of Ontario, Quebec and Nova Scotia, also Gen. Sir Richard Turner.

Dr. M. G. White has been appointed Director of Medical Services, Toronto, and is now engaged upon the organization of his work, so that it will include the medical inspection of schools, which was transferred to the Medical Officer of Health's department last April from the Board of Education. Dr. White was formerly superintendent of the Isolation Hospital, but now enters a much wider field, including responsibility for the Isolation Hospital, the school children and the various clinics maintained by Dr. Hastings' department.

Dr. W. E. Ord, R.A.M.C., has been decorated with the French Cross of War.

The question of a Department of Public Health was raised recently in the House of Commons by Dr. Michael Steele, M.P. for South Parth, Ontario.

There are now about 300,000 military hospital beds in Britain, 27,000 in Malta, 250,000 in Italy, and many in Egypt, Mesopotamia, India, Roumania and Russia. The need for doctors is increasing rapidly.

The Council of the Ontario College of Pharmacy has urged upon druggists to aid the authorities in their efforts to suppress the use of narcotic drugs.

Columbia University War Hospital, New York, has offered to care for 500 wounded Canadians.

Someone, whose name has not been made public, has donated a convalescent home for the Flying Corps on North Yonge St. It has been fitted up with 25 beds. There is a large area of land, well wooded, around the home.