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CANADA LANCET

A Monthly Journal of Medical and Surgical Science, Criticism and News

THE OLDEST MEDICAL JOURNAL IN THE DOMINION

Vol. LIV

TORONTO, CANADA, APRIL, 1921

No. 8



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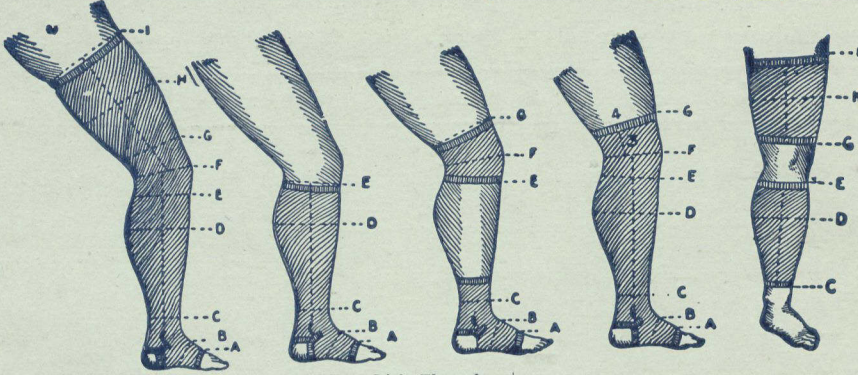
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The Canada Lancet

JOHN FERGUSON M.A., M.D., AND W. EWART FERGUSON, M.B., EDITORS

VOL. LIV.

TORONTO, APRIL, 1921.

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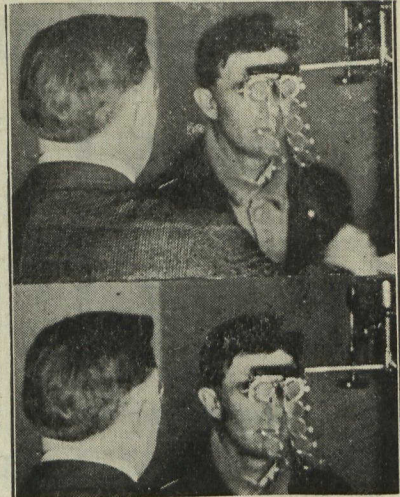
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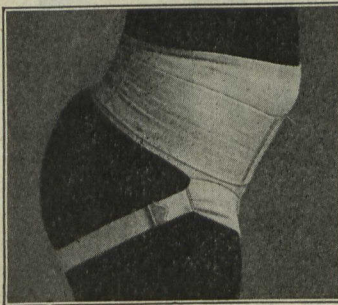
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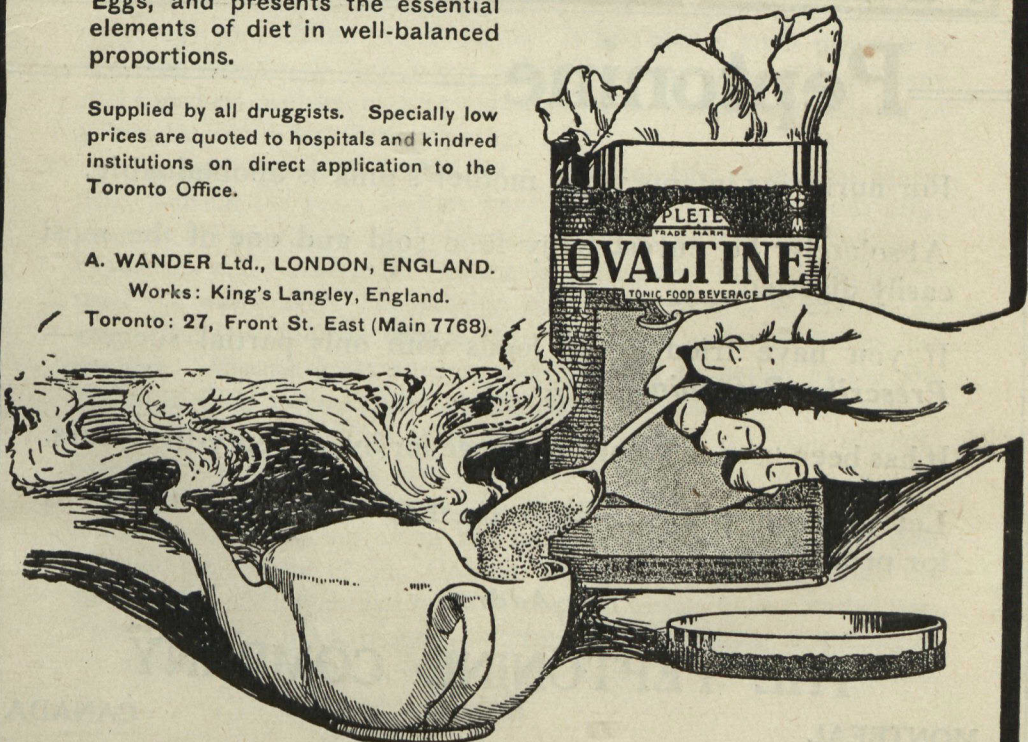
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The Canada Lancet

VOL. LIV

TORONTO, APRIL, 1921

No. 8

EDITORIAL

ADIEU!

For twenty years we have edited the Canada Lancet. Month by month, during these many years, the journal has made its bow to its readers, and wished them every success in their noble calling. The time has now come when we hand on the lamp to others in the sincere hope that they may hold it aloft with a stronger arm, and carry it forward with a fleeter foot than was ever given to us. While ceasing to be responsible for the contents of the journal, we shall follow its future with keen interest, and, when occasion grants the opportunity, shall be ever ready to contribute to its pages. It has been a great pleasure to have had, during all these years, the privilege of addressing so many of the medical profession—a privilege which we purpose maintaining in a friendly and sympathetic capacity.

We have constantly fought for a high standard of medical education. During the years that we have edited the Canada Lancet great progress has been made in this direction. The license of the College of Physicians and Surgeons of Ontario is a document that commands respect the world over. Reciprocity with Great Britain is now an accomplished fact, and also with the other provinces under conditions that are fair. Another great advance has been the formation of the Dominion Medical Council, through the strenuous and long-continued efforts of Sir T. G. Roddick. Towards the achievement of this splendid object the Canada Lancet gave its steady and loyal support.

Another onward movement in which we take pride is the consolidation that is going on in the ranks of the Ontario Medical men through the efforts of the Ontario Medical Association. Until the medical men of Ontario can speak through an executive as a united profession, they will not have much influence in the changing or making of the medical and health laws of the province. It is encouraging that

there is a clearer sky ahead, and that the breezes of medical opinion are filling the sails of the medical ship, and speeding it forward to its noble destiny. In aid of this voluntary organization we have given our best support.

Of recent years a most unfortunate series of events have occurred. The advent of several cults have done much harm. They have entered upon a vigorous campaign of slander against the medical profession, and have been most industrious in the dissemination of their false teachings about disease and its treatment. The general public cannot judge wisely, and have been sadly led astray. The propaganda carried on by these cults has had much influence with members of the legislatures of the several provinces and with the people. It must be remembered that politicians, lawyers, clergymen, business men, etc., are laymen so far as medical science is concerned, and may very readily become the victims of false teachings. The mischief wrought by these cults in the matter of the view that the people hold with regard to disease, has been very serious. These cults have been destructive of all true science in medicine, and have done much to shake people's faith in the great achievements that have been brought about by the great workers in the field of true medicine. Against these cults we have waged a ceaseless warfare.

While we are glad to lay down the heavy burden of editing the Canada Lancet, we do not intend by any means to take our hands away from the plough so long as strength is granted to carry on in behalf of the medical profession. Indeed, the freedom thus secured, shall enable us to do more along other lines. There is much work yet to be accomplished, and all must bend their energies to its realization.

In the discharge of our duties as an editor, we have been compelled to criticise on the one hand, or to praise on the other. We did the former without fear, and the latter without the expectation of any favours. To all our past readers we send the message of Byron to Tom Moore :

Here's a sigh to those who love me,
And a smile to those who hate ;
And, whatever sky's above me,
Here's a heart for every fate.

THE GLOVER SERUM.

When the Glover treatment for cancer was announced, we urged that its method of preparation should be made known. We also urged that Dr. Glover should associate with himself members of the medical

profession who would be permitted to know every detail of preparation and use. We also urged that the methods involved and the cases treated should be brought before a medical association for investigation and discussion. We further urged that there should be no attempt to commercialize the discovery; and argued that if a cure for cancer had been discovered the Government and people would very generously reward so great a benefactor of mankind.

The medical profession now knows what has happened. We have dealt with this question so fully on former occasions that we shall not go over the ground again; but shall content ourselves by reproducing the letter of Dr. Francis Carter Wood which appeared in the *Journal of the American Medical Association*, under the caption, "The Glover Cancer Serum." Dr. Wood, of New York, is director of the George Crocker Special Research Fund for the Investigation of Cancer.

"To the Editor: During the month of December, 1920, a large number of physicians referred to me copies of an advertisement of an alleged cancer cure prepared by the T. J. Glover Research Laboratories of Toronto, Canada. I immediately obtained some of this serum from the makers, at a cost of \$25 for five doses (about 5 c.c. of serum). The serum was a clear, amber colored fluid. During the experiments it was kept, as directed, in a cool place, and it was handled and administered under the most careful asepsis.

"This serum was tested on carcinomas and sarcomas of the white rat. These were transplanted tumors which had originated in the mamma of the rat and were much less malignant than the corresponding human tumors. It was assumed that the doses for the rat should be proportioned to body weight. In some instances the serum was injected directly into the tumor, in others it was injected subcutaneously or intramuscularly, as recommended by Dr. Glover, and the time intervals also were proportioned as recommended. The serum appeared to be rather toxic, and the injected animals failed slowly in health.

"The treatment had not the slightest effect on the growth rate of tumors of either type, nor was any tumor cured. It is evident, therefore, that the statement made by Dr. Glover to the effect that this serum is of no use in the treatment of sarcoma is correct. To this should be added the further statement that the serum has not the slightest effect on carcinomas of the white rat.

"These results confirm the report of the Toronto Academy of Medicine, published in the *Journal* as to the worthlessness of this serum as a therapeutic agent for malignant tumors."

We think that this letter from so eminent an authority should be of great value, and should enable our readers to arrive at a definite decision on this matter. It would have been well if the Government had stepped in at the beginning, as we urged, and made a thorough investigation.

THE MAKING OF CRIMINALS.

This is a subject of vast inductions and has engaged the time and thought of many distinguished students of psychology. Of recent years there has been a great wave of crime in Europe, Canada and the United States. The conditions in Russia are most alarming, and if we had the real facts at hand, they are no doubt very bad in Germany. In France since the cessation of the war there has been a very heavy wave of crime. We are all familiar with the condition in this regard on this continent.

Now, one asks, why? This is an easy question to put, but by no means an easy one to answer. In the first place a certain number of persons have an unstable nervous organization. So long as things are going on in a normal way, they may maintain their mental equilibrium, and their conduct pass muster. But there have been a number of circumstances during the past few years that have been active in the way of unsettling those of a faulty nervous organization.

Among the influences operating towards the production of criminals one must place the motor car. There is a strong temptation to take a car and go joy riding. Those in the stolen car can go a long distance to where they are not known, and in a short space of time. The stealing of the car may be the first step to losing moral control in the case of those who do the act. The pleasure of the ride with company, usually bad, leads to an effort to repeat the theft, and so the habit grows. The end is disaster, as other forms of crime follow.

With regard to the moving picture theatres there can be no doubt any longer that they may be good or bad. There is a strong desire for the "thriller," and far too often, in compliance with this desire, the film proves a real "thriller." There is burglary, the "hold up," the train-wrecking, the shooting, the throttling, and such like. All this works on the young mind, which is all too easily inflamed. Some of the less balanced spectators think it would be fine sport to "stage" what they saw on their own account. Things are improving, but on this continent there has been much damage done to the minds of our youth through the agency of the "movie" staging the "thriller."

Another cause of much of our crime (and remember we are viewing this only as a psychological problem), is the wide distribution of intoxicants. A motor car, several young men, and a flask of liquor, make a most dangerous triple alliance. The car may have been stolen for the occasion. This is the first "thriller." The liquor may have been obtained illegally from a bootlegger. This is a second "thriller". And the party may be going to a distant point to have "a good time". This is a third "thriller". Here we have amply psychology to explain much crime. Under such conditions, the young mind is almost certain to degenerate, and lose its grip on self-control and respect for law and order.

But there is another factor in the production of our recent wave of crime. The war has had its evil effects in more places than the battlefield. Many young persons growing up during the years of the war had their sense of the sacredness of life destroyed, and their appreciation of property rights undermined. These boys read daily the lists of the killed and wounded, containing often the names of persons well known to them; and their "blood was fired." They conceived the idea that they would like to kill some enemy in retaliation. In many cases the fathers and elder brothers of these boys were at the front, and they grew up lacking the restraining influence of the older and more stable minds.

But as a problem in psychology a good deal of harm has been done by the extreme socialist writer and speaker. His views have unhinged the minds of many regarding property rights, and relations that should exist between the several classes in the state. It has become all too common to entertain the opinion that if one person has not and needs, he has the right to go and take from him who has. This sort of "help-yourself" theory has arisen to a very considerable extent from the teachings of the social iconoclast. This is all wrong, but it is with us, and, as a mind problem, must be studied.

There is another cause for crime that has attracted too little attention. There is a vast amount of inflaming "literature." Running all through our papers and magazines one finds the most exciting stories, relating gruesome tales of murder, robbery, and the fine work of the detective in these cases. The effect on masses of people of such is very deplorable. One may say that it is not the duty of government to interfere in such matters, and that people must take their chance and pull through as best they can. We know there is such a condition as individual mental distortion, but there is also such a thing as community mental distortion, and this is much more serious than the individual type. "The psychology of the Crowd," was the title of a book written by an eminent French Savant many years ago.

In the final analysis of this weighty subject we wish to emphasize the supreme importance of sound teaching in all our schools and colleges. The proper relations of man to man should be the great objective of all teaching.

AN APPEAL.

We take this opportunity of addressing our readers upon a few salient points.

The first is to keep up a high ideal in the medical profession. It must ever stand for nobility of purpose, and ability in performance. To accomplish this we must live up to our code of ethics, and we must maintain a high standard of education.

The next word we wish to say is to be loyal to your medical societies. You can do much for them, and they, in turn, can do much for you. In this connection, we would urge that you give your very best support to the Ontario Medical Association. It has done great things in the past, and is destined to do still greater things in the future.

And our further appeal is for all to stand shoulder to shoulder in the effort to secure sound and useful medical legislation, in order that the sick and injured shall ever have a skilled and properly trained profession to rely upon. We wish to state that we have no quarred with the osteopath, the chiropractor, or the Christian Scientist because of their names. Our contention has ever been: "If you wish to heal people, first become educated in the sciences that form a true medical training."

THE WAR AS A STIMULUS TO MEDICINE.

Dr. H. A. Bruce, who saw much service at the front, and who, for this reason and his wide surgical experience in civil practice, can speak with authority, in a recent address to the York Pioneers mentioned a few of the ways in which the war had acted as a stimulus to medical and surgical advancement. This is repeating history; for it is when individuals and nations are on the defensive, and struggling for their self-preservation, that the best they can produce is brought forth.

One of the noted advancements made was in the matter of blood transfusion. Formerly this operation was performed by the direct method; but in the conditions incident to war this was by no means always practicable. Then came in the practice of keeping a supply of blood in cold storage ready for immediate administration. This proved satisfactory and proved the means of saving very many lives.

Another advance made during the war was the successful combat of the tetanus germ. In other wars this germ caused many deaths by lockjaw, so the bacteriologists got busy and prepared large quantities of anti-tetanus serum, and this was injected into each wounded soldier as soon as he was picked up on the battlefield. By this quick treatment, tetanus practically disappeared from the list of diseases. This would hold good in civil practice, and here a very great advance has been made. Such achievements should put to rest the babblings of the ignorant cults against scientific medicine.

Prior to the Great War, carbolic acid was used as the chief anti-septic, so the Canadian and British authorities sent huge quantities of this acid overseas, but owing to discoveries made early in the war, practically none of it was used. This was because a Scotch chemist, working in France, found out that a chlorine preparation was more powerful and that it would not destroy the tissue in the same way as carbolic acid. This chlorine treatment was of tremendous benefit in combating infection, although a discovery was later made by the British and French simultaneously, that a plain salt solution treatment would serve the purposes just as well. So one sees how the great work of Lister liveth on though in a modified way. His scientific mind laid the foundations upon which we are building and improving. Once more the investigator proves his value to man.

Another advance was the discovery that all devitalized tissue should be removed from wounds, for this tissue, if left in, would produce gangrene and give all kind of trouble possibly causing death. This system was started in 1917 and produced surprising results. Here is the proof that the surgeon can aid nature. It became evident as the result of much experience that the speedy removal of dead tissue was greatly to the advantage of the wounded man as compared with slow method of its removal by suppuration and sloughing.

ALCOHOL AND MENTAL DEFICIENCY.

A vast amount of valuable investigation has been carried on in the past upon the subject of alcohol and its effects on the human body. The phase which we propose mentioning on this occasion is the relationship between "alcohol and mental deficiency." On this aspect of the question Dr. Pearce Bailey, who had charge of those rejected from the United States army because of drink or drug addiction, among other things remarks as follows:

"The general opinion that alcoholism and mental deficiency go hand in hand, that the drunkard is defective and that the simpleton eventually fills a drunkard's grave, that both combine together to bring about the poverty and misery of the indigent classes finds little support from these examinations of the army. The two conditions operate separately for the most part, and no two conditions of the human mind are further apart in their clinical and social characteristics."

The foregoing may be quite true of the actual cases coming under observation of the drinker not becoming a mental defective, or the mental defective becoming a drinker. But the question cuts much deeper than this. It has now been worked out as the result of much study on the human subject and from comparative study on animals that the abusive use of alcohol has a most disastrous effect on the offspring, both physically and mentally. The use of alcohol is unfavorable to the development of a normal foetus. Here we find an explanation for many of the instances of persons who are mental defectives, moral perverts, criminals, or of poor growth and vigor. This starts into the world a bad stock from which to breed.

When Dr. Bailey regards chronic alcoholism as playing a small part in the problem of general mental deficiency we must break a lance with him and differ. It does play an important part. It is within the experience of every physician that many who use alcohol too freely go down mentally. This is very especially true of the habit of indulgence is commenced early in life. In such instances the consensus of the medical profession is that the alcoholic habit plays a great part in lowering mentality. Then we must remember the influence on the pregnant mother. We think we are on solid ground when we state that chronic alcoholism is productive of mental degeneration.

ACTION AGAINST DR. ARCHER DISMISSED.

"Upon the evidence, it is clear that the defendant was possessed of more than average surgical skill and performed the operation in an expeditious and skillful manner," remarked Justice Sutherland in dismissing the action brought by Mr. and Mrs. Isaac Waldon, of Port Perry, to recover from Dr. Robert Archer, of the same place, \$20,000 damages for alleged malpractice. The plaintiffs must pay the costs of the action.

The action arose from the leaving of a sponge or "wipe" in a wound after an operation upon Mrs. Waldon. The doctor had been called on Sept. 12th, and the next day, after a thorough examination, advised an operation, as the condition might become serious. Mrs. Waldon refused

to be operated upon. On Sept. 19th Dr. Archer again urged an operation, and again on Sept. 25th. Late in the evening of the latter date Dr. Archer was hurriedly summoned, and found the patient in a state of collapse. He saw that an immediate operation was necessary to save her life.

He, his wife, who had been a professional nurse, his brother, also a doctor, and a practitioner called from 15 miles away, extemporized an operating room in the patient's home. The operation was conducted by the light of a lamp swung by a cord from a stovepipe hole in the ceiling.

The operation took about 20 minutes. Mrs. Archer did the work which in a hospital would have required two or three nurses. Following the operation the wound did not heal as it should have, and Dr. Archer suggested an exploratory operation thinking that a sponge might have been left in. Mrs. Waldron and her husband refused. After consulting other doctors, and after months had elapsed, an operation was performed by a Toronto doctor and the sponge removed. The charges to which Mrs. Waldren had been put by the other doctors was \$1,930. Dr. Archer's bill had been \$366, including the charge for a nurse brought from Toronto.

Justice Sutherland says: "I am of opinion that the failure to remove the sponge cannot be regarded as actionable negligence or as more than an accidental, excusable, and condonable slip or inadvertence resulting from the critical condition of the patient and the paramount duty of completing the operation in the shortest possible time."

SPAHLINGER TREATMENT FOR TUBERCULOSIS NOT PURCHASED.

The British Ministry of Health has not purchased the world rights for the reputed Spahlinger treatment for tuberculosis, and has established no evidence of its scientific value, according to a cable received by Dr. George D. Porter, Secretary of the Canadian Association for the Prevention of Tuberculosis, from the National Research Council of the British Government.

Recently cable despatches intimated that some such arrangement had been made by the British Government regarding this treatment, and Dr. Porter and the Canadian association have had innumerable inquiries about it.

ORIGINAL CONTRIBUTIONS

PRE-HARVEIAN CONCEPTIONS OF THE CIRCULATION

By Paul M. O'Sullivan, M.D., Toronto.

TO those who have leisure, and to others who have not, but from motives of self-indulgence, dabble into the History of Medicine, it must be a continual source of amazement to consider that the discovery of the circulation of the blood, the most fundamental fact in Physiology, was not arrived at until the seventeenth century. How such an elementary, and to use almost self-evident phenomenon, should have eluded the investigations of scientists before Harvey, is an historical enigma, almost impossible to account for. It is all the more incredible because the preceding ages were rich in discoveries, quite as difficult of solution. The keen mind of Aristotle, (to go back to the founder of the accumulation of ascertained facts which we call science), whose genius enriched every branch of knowledge, some of which he covered so exhaustively that little has been added to this day, completely missed the significance of the blood flow. It was not altogether because of a servile and almost idolatrous submission to his overpowering intellect which imposed his system on men's thought for over a thousand years, but because of the intrinsic merit and truth to be found in his writings.

In the opening meeting of this year we listened with admiration not unmixed with awe to the fascinating account of the modern theories regarding the construction of matter by Professor McLennan. He told us that the hitherto inviolable and indivisible atom, the "ne plus ultra" to the prying of the physicist had been broken into by modern artillery, and its structure laid bare, following an intensive bombardment with alpha rays, revealing a microcosmos composed of a sun, and a planetary system of electrons. These electrons are identical in size, weight and electric charge. An atom of helium differs from an atom of hydrogen, only in the manner in which the electrons are disposed. The matter is the same, the form is different. By altering the disposition of the electrons, one element may be changed into another, and the properties change, though the actual substance remains. What is this but the Matter and Form Theory of Aristotle—that there is one underlying principle of matter, and that what constitutes the difference between one thing from another is the form of that matter? By changing the form of one element scientists of to-day effect a transmutation. The Scholastic School of Philosophy, the mediaeval followers of Aristotle, taught the con-

verse of this proposition, that if the matter of anything could be changed, the form remaining the same, that a transubstantiation could be effected without any change in the properties. When we consider how recent historical research has shown that many discoveries and modern theories have really been known to the ancients, it is all the more astonishing that the comparatively simple fact of the circulation should have been overlooked. But is it really so simple? In the words of Homer: *Prin ti kokon, patheen, rhechthen de te nepios egno.* That the blood "moves as it were," in a circle is self-evident to us. 1st, Because probably no other conception offered itself to our minds. Even in the primary schools we were told that the blood moves in a circle, and by means of a diagram with the arteries painted red, the veins blue, the heart a four-chambered box, and the direction of the flow through the double circulation indicated by arrows, an indelible impression was conveyed by symbolic representation.

Then we take it for granted that the heart is a hollow muscle, and from prior physical and chemical data bearing on the function of the diaphragm and lungs, the composition of air, many difficulties are overcome. Then when we come to actual dissection, the vessels are injected with some colored fluid, a process invented by Ruysch only a few centuries ago.

Picture the perplexity we would experience if we attempted to determine the functions of the various organs of the body, if our minds were stripped of all acquired medical and biological knowledge. Let us put ourselves to the task with the mental equipment of the technically untrained Greek, with the methods available 300 years B.C. The use of the arms, legs, and sense organs is obvious. The act of breathing and the existence of the pulse, are functions which can easily be recognized by the untutored mind as indispensable to life. Our mundane life begins with our first breath, and respiration and heart-beat are events which synchronize with the duration of life. They are the only activities which are incessant, and any interference with them, more than momentary, is followed by disaster. As long as we breathe we have life, if breathing stops, the pulse ceases shortly after. It is not unexpected then, that man should believe that the principle of life was contained in the air, as Anaximenes taught, nor as Democrates held, that the vital essence consisted of fine particles which, inhaled with our breath, are diffused through the body, and which at death are restored to the great reservoir of the universe. In the Old Testament, it is related that God breathed into the face of the first man the breath of life and man became a living being.

Words are the crystals of theories, and the classical names for breath are identical with those for soul, as in *pneuma*, *anemos*, *theumos psuche*.

The existence of the pulse is less obvious, but the intimate association of this perpetual action with breathing, must have convinced the most casual observer, that this too, was a vital process. When death did not occur in the natural way from cessation of breath in the early days and indeed in these days of enlightenment, it is resulted from violence, and the life left the body with the blood. Hippocrates placed the soul in the left ventricle of the heart. Empedocles assigns it to the blood.

When a body is opened the veins, arteries, tendons and sinews are all alike, a nondescript labyrinth of cords. These troublesome strings were collectively termed met by the Egyptians. The Greek distinguished the hollow tubes as *phlebes* and the nerves and sinews as *neura*.

In the Hippocratic writings, arteries and veins are indiscriminately called *phlebes*, for example, he speaks of a pulsating vein; and the term artery, air carrier, was reserved for the windpipe, which obviously conveyed the air to the lungs and heart.

It was either Diocles of Corystus (B.C. 354. or Proxagoras of Cos who first distinguished the thin-walled veins or *phlebes* which issued from the liver and which when cut poured out blood, from the thick-walled vessels, which when cut exhibited a lumen and seemed to be empty. These he concluded, were the vessels which carried the *pneuma* or spirit breathed in from the air by the windpipe and hence called air carriers of arteries. The windpipe which was looked upon as part of the system called the thick artery *arteria tracheia* or briefly *trachea*.

On opening the chest there is nothing resembling a muscle in the mysterious structure of the heart. To make out four compartments requires some study, and the right auricle might plausibly be taken for the vena cava adherent to the heart proper. The Aorta obviously arises from the heart and all the thick-walled empty vessels take their origin from the left ventricle. The veins converge to the liver, which from its color, consistency, and size was taken as the blood-forming organ. Its name *hepar* is made up of *hear* Attic for blood and *epo* to make.

The lung connected with the windpipe is evidently the receptacle for air or spirits (*pneuma*) whence its name *pneumona*. Numerous vessels connect the lungs and the heart, but there is nothing to distinguish the incoming from the outgoing paths. Here the arteries are like veins and the veins like arteries. As Harvey says both the pulmonary artery and the pulmonary veins (and there are four of them—not one, like the single path of the diagrams) lose themselves in the lung. On inspection

the connection between the heart and lungs is a labyrinthine network, a rete mirabile to provide free passage for the air breathed into the lungs to the heart.

With this data to work on, the physiology of Aristotle is less fantastic.

The vital principle is taken into the body with the air we breath in inspiration, the air is carried to the heart by the pulmonary veins to the left side of the heart and there modified into vital spirits which is carried to all parts of the body by the arteries, all of which spring ultimately from the Aorta. [Compare the Biblical passage for the spirit (pneuma) is in the blood.]

Blood is formed in the liver and reaches the right heart by the great vein, here the blood is brought in contact with the pneuma brought from the lungs by the pulmonary artery and by the mixture of the two, heat or animal spirits is formed. The blood containing caloric is then disseminated through the body by the veins.

Blood is made in the liver from the food brought from the digestive canal by the veins. The liver produces animal heat or caloric which is conveyed with the blood to the heart. Caloric passes from the right to the left side through invisible pores (adela pora) in the septum of the heart.

Another confusing circumstance, which might have given rise to the hypothesis of invisible passages in the cardiac septum arose from the difference in the circulation in embryonic life, when the blood does actually pass from the right to left side through the foramen ovale.

The analogy of the heart to a furnace, with the lungs as a bellows, the windpipe as a chimney, the liver supplying the fuel and the veins and arteries the pipes is more satisfying than that of a pump. On this theory the heart beat and the pulse is the result of the energy generated within the heart from the combustion of the pneuma and the fuel provided by the liver. The vital spirits thus liberated make their way through fine porosities in the septum to the left or pneumatic side and thus to the arterial system. Thus the heart is the essential vital organ, generating vital spirits which are disseminated throughout the entire body by the arteries, by a regular series of explosive reactions which is transmitted to the arteries, and which is manifested there as the pulse.

The teaching of Aristotle, which was generally accepted down to the 17th century, was that all the blood was in the veins, and that the arteries contained only spirit.

The only place where any interchange could take place was through the septum of the heart, and, some conceded in the lung. It was the

intimacy of association of pulmonary arteries and pulmonary veins in the lungs which suggested the smaller circulation to Realdus, Columbus, Cesalpinus and Servetus years before the greater circulation was discovered. Galen, who is generally credited with emphasizing the doctrine of the permeability of the cardiac septum, did experiments which completely refute it. He says when you cut an artery that blood only flows in a continual stream. Although he followed generally the work of Aristotle, yet he quotes passages from the Alexandrian School, especially from Erasistratus and Herophilus, which is about all we possess of their writings, and the extraordinary accuracy of these excerpts makes the loss of them all the more regrettable.

It was Herophilus who anticipated the discovery of Magendie and Bell of the sensory and motor roots in the spinal cord nerves. The passages of the eclectic Galen where he states that the arteries contain blood and nothing but blood, is also taken from this last author. Furthermore, on inflating the lungs of a dog through the trachea and then ligaturing it he found that the lungs remain distended and therefore the spirit does not enter the arteries through the lungs. It is Herophilus who realized the peculiar nature of the pulmonary circulation and gave the name of artery-like vein *phleps arteriode* to the pulmonary veins and vein-like artery to the pulmonary artery.

Another extraordinary reference to this school has been preserved in the *Noctes Atticarum* of Aulus Gellins. In the 18th Book he relates how he consulted a doctor, who asked to let him feel the pulse of his vein (using the term *phleps*). The purist, inquired if he did not intend the artery. The learned Dr. answered, "Quite so. The terms are used too loosely by the doctors, and of course veins are immobile, but from the pulse of an artery the state of fever can be judged."

Then he quotes from Erasistratus the definition of an artery and vein. "A vein is a blood vessel, which the doctors call *angeion*, mixed up with natural spirits, of which there is a predominance of blood. An artery is a vessel for the natural spirits, mixed up with blood, in which the natural spirits predominate."

The dogma of the complete independence of the arterial and venous system had a hold on the ancients comparable to our cellular or biogenetic theories of to-day, and Erasistratus went to great lengths to explain the fact that when an artery is actually cut, it does bleed. His explanation though reveals either a greater knowledge than is usually ascribed to the ancients or else he made a remarkable guess. He says when an artery is cut, the subtle vital spirits escape and a vacuum thus is produced in the arterial tubes. Nature abhors a vacuum, so blood is

drawn in by occult foramina to fill up the empty space. Thus he postulates a potential anastomosis between arteries and veins.

It is a great misfortune that the works of the Alexandrian School should have almost entirely perished. The fragments in Galen and a few other writers are very suggestive that perhaps something approaching modern medical science was attained by that unique school.

But the ruthless destruction of the libraries of Egypt and Asia Minor by the first Arabs was so complete that a diligent search for more evidence of this scholarship has been in vain.

These considerations make it less astounding when a work in lineal descent from this school was found to reveal a knowledge of science on a vastly higher plane than either the Aristotelian or Galenic teaching.

NEMESIUS, BISHOP OF EMESA.

The great anatomist, Jacob Henle, has recorded the sentiment, somewhere in his works, that "there is a virtue of renunciation, not alone in the province of morality, but in that of the intellect as well." It was whilst enjoying a debauch among books furthest removed from any work in hand, that a very ordinary-looking quarto, bearing the inscription, "Nemesii De Natura Hominis", became the object of capricious choice. The astonishingly modern character of this ancient textbook on General Science, written by a Christian bishop of the fourth century, which a first survey disclosed, and the entirely inadequate justice rendered to this great work by the historians of medicine, determined the writer in devoting to the book a more detailed study.

In forty-four short chapters the author covers the wide range of Philosophy, Biology, Medicine, Ethics and Theology. The individual subjects are dealt with briefly, and thus in details often obscurely, but under this limitation it reads more like a work of our own time, than what one might expect from a theologian of the fourth century. For example we read in Chapter IV the following clear exposition of the Law of the Conservation of Mass:

"For bodies break down again into their elements, so that thus, all things remain everlasting. There is sufficient material for everything that is formed, and there is nothing superfluous and nothing lacking."

In the same chapter he distinguishes mechanical mixtures from chemical compounds, and describes solutions both aqueous and gaseous.

Perhaps we misjudge the accuracy of the knowledge of the ancients by giving a non-technical import to items which they employed in dealing with technical subjects. We smile at the childishness of the old classification of matter into the four elements:—Earth, Air, Fire and

Water. But would the scientific attainments of this generation be accurately adjudged should historians of the future take in the usual acceptance of the word, the term for example of "chemical individual"? Our author throws light on this very point when he summarises the properties of the four primary elements as follows:—A modern ternionology is appended for comparison:

Fire—Pur	} Manotes } Oxutes } Kinesis	Ether	{ Expansion } Affinity } Motion
Earth—Ge	} Amblutes } Puknotes } Stasis	Solids	{ Inertia } Density } Mass
Air—Aer	} Amblutes } Kinesis } Manotes	Gases	{ Inertia } Motion } Expansion
Water—Hudor	} Amblutes } Kinesis } Puknotes	Liquids	{ Inertia } Motion } Density

The different substances found in the earth's crust, he explains, are composed of varying proportions or combinations of these four elements. As complex bodies break down, they resolve into their respective elements, but the sum-total of the four primary elements remains the same. Perhaps in years to come our seventy odd elements may be reduced to something approximating this tetrapharmacon.

A large part of the work is devoted to Psychology. This aspect of our author's work has been fully covered by a recent monograph by Domanski:—"Die Psychologie des Nemesius", but a few striking points may be mentioned here.

Man, he teaches, is composed of a corporeal soma and a spiritual psuche. Sensation is a property of the soma, and has its seat in the forebrain. The function of memory is situated in the hindbrain and being composed of perceptions, derived through the senses, is dependent on the soma and dies with the body.

He places the soul in the ventricles of the brain in a passage which is quoted by John of Damascus (died 756) in "De fide orthodoxa", Lib. II, Cap. 17; and by Costa ben Luca (864-923) in "De Differentia Animae et Spiritu." Cap. 2.

In another place the seat of the soul is localised more definitely in the middle cerebral ventricle.

But he makes it quite clear that because the soul is of a spiritual nature, it cannot be confined to one anatomical place, and explains its relation to the body by a simile. "The soul is present in the body, in a like manner as God is said to be present in us."

Macrobius in his *Saturnalia* (Ed. Eyssenhardt Leipzig, 1868) has the same idea.

In Lib. VIII, 18 p. 431, we read:—

"Anima locat in cavernis cerebri spiramentum do effectibus suis, cujus spiramenti natura haec est ut sensus et ingerat et gubernet."

Further he states that just as bone itself has no sensation, but only, the periosteum (omentum quod impositum est ossi) so the brain itself is not sensitive but the membranes of the brain are.

"Sic ergo fit ut cum ipsum cerebrum sensu careat, sensus tamen a cerebro in omne corpus proficiscatur."

In C. VIII p. 429 he answers the question why, when we spin around for a while we get dizzy, and things seem to move around us though we stand still. He says that there are seven possible ways of changing our position: Moving forward, backward, to the right, left, up and down. "Septimum, id est qui gyros efficit cerebro conversu, turbat et humoribus capitis involvit spiramentum, quod animam cerebro quasi omnis corporis sensus gubernanti ministrat. Hoc est autem spiramentum quod ambiens cerebrum singulis sensibus vim suam praestat his quod nervis et musculis corporis fortitudinem praebet, ergo vertigine turbatum et simul agitatis humoribus oppressum languescet et ministerium suum deserit, etc."

An astonishing anticipation of the physiology of equilibrium and the function of the semi-circular canals.

His account of the Physiology of the central nervous system, which is incorporated in his chapters on Psychology deserves special mention. In Chapter VII on Vision, he relates how the right eye receives impressions from the left side, and vice versa. The stimulus is carried to the brain by the optic nerve, and visual memory is stored in a certain part thereof. The special senses he divides into Distance Perceptors, viz:—Vision, Hearing and Olfaction, and Immediate Perceptors, viz:—Taste and Touch. A perception of anything is the sum of our sensations about it, and these are so associated that when we perceive the sight of a yellow flame, we recall the sensation of heat through Touch Memory. Similarly the colour of an apple recalls its taste, odour, etc. The limitations of the accuracy of our sensory impressions are outlined, shewing the illusion of a fast moving wheel appearing to stand still, and how a square tower seen from distance appears to be round.

Chapter VIII on Touch is a remarkable one. Before dealing with cutaneous sensation in man, he approaches his subject from a comparative standpoint. Touch, he says, is the most primitive of all sensations, is common to all animals, and distributed in varying degrees of delicacy. By touch, he means somaesthetic sensation and distinguishes skin-sensation proper from that derived from bone, ligaments, joints and muscle. Pain is the most important variety owing to its close connection with the life of an animal. It is a protective mechanism, if we did not feel pain we would not be aware when we are pricked with a sharp point and thus would cause ourselves injury. And "It is absurd to say that there is pain in the extremities of the nerve, because the perception of pain is in the brain and the nerve merely conveys the message to the brain."

Skin sensation proper is divided into Heat and Cold, Soft and Hard, Viscous and Friable, Light and Heavy. The surface of the body is not all equally sensitive, but touch is more acute over the palms of the hands and especially at the finger tips.

The following account of the sense of taste (Chap. IX) is given in some detail, firstly as shewing the methodical method of treatment, and secondly, because it may be that his classification of gustatory sensations, could be used with advantage to-day. Taste is the perception of sapid substances. The instrument of taste is the tongue primarily, and to a less extent the lips, cheek and palate. The stimuli are sapid substance in solution. Special nerves convey the sensation to the brain. Eight varieties of gustatory sensation are enumerated, namely, glukutes, sweet; oxutes, acid; drimutes, sour; Struphnotes, bitter; austerotes, sharp; Pikrotés, pungent; alhourotes, salty; liparotes, oily.

There are endless varieties and combinations of this number. To be sapid a substance must be in solution. Water, the universal solvent, has no special taste, its detection is a function of ordinary skin sensation.

The Chapter on Olfaction is also noteworthy. The receptive surface here is the lining membrane of the nose, and the efficient stimuli, volatile (atmosidesta) particles. The nasal membrane is supplied with sensory nerves which issue from the extrem anterior end of the cerebrum. A startling statement is the following, and together with other hints, especially one in Chapter IV, where he defines a tissue as a homogeneous structure, makes one wonder what instruments they possessed to study histology. "There are no special end organs but olfactory sensation is conveyed to the brain by the naked endings of the nerves themselves."

In connection with the modern study of Psychoanalysis, a study of Chapter XX on the Emotion of Fear would be pertinent. Nemesius

enumerates six different varieties of phobos, Fear. The lowest, *oknos*, a form of laziness, i.e., the fear of approaching action; *aidos*, the fear of coming blame; *aiskune*, the fear of being discovered; *kataplexis*, mental fear; *agonia*, worry, and *ekplexis*, terror or unusual fear. As a curious if not accurate point in Philology he says that the ensiform or Xiphoid process of the sternum is so called, because when we are terrified we feel a gnawing pain in this region such as might be caused by a sword thrust (*xiphos*).

In Chapter XXIII there is an admirably succinct account of Metabolism. Here the metabolic processes are divided into those of digestion, (*helktike*); assimilation, *kathektike*; combustion, *alloiotike*, and excretion, *apokritike*. As the Editor points out in his preface, Nemesius describes the digestive properties of the bile over a thousand years before Sylvius. Excretory organs in addition to the kidney and intestines are the skin, mouth, nose, ears and lungs. Loss of heat by sweat glands is distinguished from loss through radiation through the invisible pores *adela pora* of the skin.

In the Chapter on generation (XXV) our author repeats a foolish assertion found in Hippocrates, *peri* regarding the origin of semen from the brain, which has been taken by some historians as an index of his scientific accuracy. He says if you ligate the occipital and facial arteries, an animal is rendered sterile.

I shall pass over the rest of his work, not because it is devoid of interest and even instruction, but to allow more space for a discussion of Chapter XXIV, on the Pulse, which contains a very brief but I think, definite account of the circulation of the blood, both pulmonary and systemic.

The following is the complete text of this chapter:

ON THE PULSE.

The movement of the pulse, which is called the vital force, has its origin in the heart, and especially from the left ventricle, which is called the pneumatic one, and which drives the inmate and vital caloric to all parts of the body, just as the liver supplies nourishment through the veins.

Heat produced in the heart is communicated directly to the entire animal, and (when the heart) is cooled (the rest of the body) is cooled.

Because the vital spirit is carried by the arteries to all parts of the body.

The following three systems especially are found together, veins, arteries and nerves, and by these three systems the animal is governed.

From the brain there issue the nerves of feeling and motion. From the liver the blood vessels, veins containing blood and nourishment.

And from the heart, the source of vital spirits, there issue the arteries, vessels containing spirits.

These systems mutually aid one another.

The vein supplies nourishment to the nerves and the arteries, and the artery brings caloric and vital spirit to the veins.

So that neither can an artery do without thin blood, neither can a vein do without atmospheric spirit.

The artery contracts forcibly and carries the impulse on, regularly and according to a law, having the origin of its movement in the heart.

But when contraction is taking place, thin blood is drawn into the system from the adjacent veins, which have drawn nourishment for the vital spirits by the act of respiration, and during contraction whatever is fuliginous throughout the entire animal is drawn in by means of the occult foramina and this waste matter is gotten rid of by the heart by means of respiration through the mouth and nose.

Let us substitute technical terms for certain of these words, and the possibility of Nemesius really showing a knowledge of the circulation in this extremely abbreviated account, becomes more plausible. Instead of reading that the arteries contain vital spirit, change this to oxygen. Substitute arterial blood for pneumatic and thin blood, and venous blood, for fuliginous. With these alterations and another more important, namely, the meaning of the words *adelon poron*, usually rendered occult foramina—in the last sentences, and it seems quite possible that he not only had an inkling but a definite grasp of the long-elusive discovery. In the *Lexicons*, *adelos* is given as uncertain, vague, hidden, and *poros*, a passage, way, opening. My contention is that these words mean here some hidden way or passage, unseen to the naked eye, between the veins and the arteries. In other words, his reasoning led him to suppose the existence of capillaries, which, so far as we know, were first actually seen by Malpighi.

“For the animal exhales both through visible and invisible pores.” Here the author is dealing with perspiration through invisible pores of the skin. The editor of this edition (1671) supposes him to be acquainted with insensible transpiration. He says: “*Merito quidem transpiratio insensibilis in hunc sensum venit; quando evacuationem quae corpori animati adveniant omnium sit primaria; quod ultra omnem expectationem et pene fidem ab arte statica edocemur.*”

Again on page 202 we read:—

“The fuliginous heat of the heart is expelled by exhalation. But many vapours from the transpiration of the whole body, brought from the furthest ends of the body by the contraction of the arteries, make their way through the skin through the occult foramina.”

Evidently the words *adelous porous* mean here some hidden or invisible way from the ends of the arteries through the skin. A similar interpretation of these words in the chapter on the pulse, meaning an invisible passage between the endings of the arteries and the beginning of the veins, would accord better with the context than the entirely arbitrary rendering of invisible pores through the septum of the heart. But this latter version has received the sanction of antiquity from a long line of translators and commentators. If this be an error it has prevented the world from obtaining an earlier realization of the great fact of the circulation of the blood.

The possibility of Nemesius really having this conception is assumed in the notes of the Oxford editor. In his preface he says:—“The most learned Sylvius in his *Disputationes medicae*, not yet published, contends bitterly with some rival or other, to whom the honor and glory of discovering the use of the bile in animal bodies, is to be attributed. That I might make peace among them, I would like them to know that the same theory was not only held, but was accurately recorded by our author nearly 1300 years ago. And if this should seem a small matter, what must we say if the fact of the circulation of the blood—the one great boast of our generation, was long ago promulgated by Nemesius, clothed in words sufficiently distinctive. Let the reader consult Chapter 24, page 209, and let him judge whether I say this rashly.”

One naturally asks how it is that this wonderful work—because apart from the question of the circulation of the blood, the book has singular merits—has been overlooked from the fourth to the seventeenth century, and secondly, why did not this Oxford edition, which sets forth the praises of the author in glowing terms, make the name of Nemesius better known to the world? On consulting standard encyclopedias and histories of medicine, I found little regarding Nemesius. But in Henderson's translation of Baas' *Geschichte der Medizen* the following account is added by Henderson. (Page 186):

“Nemesius, bishop of Emesa in Phoenicia fl. circa. 400 A.D. Noted for his work “On the nature of man.” This treatise served in the schools as a physiological textbook for many ages, devotes more attention to philosophy and psychology than to medical matters. A knowledge of the circulation of the blood has been ascribed to him, but his other physio-

logical views differ too little from those of this age to permit us to find in his statements relative to this subject adequate data for a clear exposition of this idea."

Then he goes on to quote the unfortunate remark about seminal fluid coming from behind the ears. One more reference was found in the work of Corlieu in "Le Medecins Grecs", published in Paris in 1885. He quotes the chapter on the pulse and comes to the same conclusion as Henderson. It seems that neither of these writers read the work in its entirety. To the first part of the question as to how the knowledge possessed in the fourth century was lost, the Oxford editor gives a fairly satisfactory explanation. He shows how the works of Nemesius of Emesa, which probably were used as textbooks, and hence generally quoted by contemporaries without acknowledgment of their source, were borrowed extensively by a number of writers and very largely by St. Gregory of Nyssa. In fact nearly the entire work was incorporated into the prolix and jejune writings of Gregory. (See Opera Omnia S. Gregorius Nyssenus in Vol. 326, Patrologia Cursus Compendium, Patrologia Graece Vol. 44. Ed. J. P. Migne, 1917). Possibly the works of Nemesius as such perished, and survived only in the huge tomes on theology of the apologist of Nyssa. The confusion of Nyssenus with Nemesius of Emesa is quite understandable and possibly through some such confusion this remarkable knowledge was concealed in works on theology from the scientific world. Why this Oxford Edition of 1671 with the remarks of the editor, the famous Dr. Fel or Fabricius should have shared a similar fate, I can offer no explanation. A serious objection to the hypothesis, that a conception of the circulation of the blood, is evinced in this chapter on the pulse, in the work of Nemesius, is, that the old idea of the absolute independence of the arterial from the venous systems is not clearly denied. Almost all the ancient writers assumed that the arteries contain spirit only, and the veins contain blood only, and if this idea be accepted, knowledge of the circulation of the blood is excluded, but the following extract from Book 18 of the Noctes Atticarum of Aulus Gellius, who lived some three centuries before our author, shows that this idea was not universal, Gellius quotes largely from Erasistratus in dealing with Medical subjects, and probably the Alexandrian physician was his authority for this information.

"Vena est conceptaculum sanguinis, quod angeion medici cocant, mixti, confusique, eum spiritu naturali, in quo plus sanguinis, est, minus spiritus; arteria est conceptaculum spiritus naturalis, mixti, confusique eum sanguine, in quo plus spiritus est, minus sanguinis.

The full title of the edition used in this article is:

NEMESII PHILOSOPHI ET EPISCOPI

De Natura Hominis

Liber Unus

Denuo recognitus, et Manuscriptorum Codicum collatione in integrum restitutus, annotationibusque insuper illustratus.—Oxonii E. Theatro Sheldoniano, Anno Dom. MDCLXXI.

The Greek text is given on one side and a Latin translation on the opposite page. The name of the editor does not appear, but Domanski gives the name of Fabricius to the Greek and Latin Oxford edition of 1671.

In the preface Fabricius wonders why such a remarkable work should have suffered almost complete oblivion. He quotes several writers who flourished after the time of Nemesius, who showed their esteem for this work by frequent reference to it. He mentions Julianus Pomerius, John of Damascus, Elias of Crete, Meletius and Eretrius, Gregory of Nyssa borrowed so extensively from Nemesius that later writers considered him as the real author of "De Natura Hominis." The writings with textual and references of Trithemius, Honorius, Vincentius, Bostonus, Buriensis and St. Jerome are given to show that this misunderstanding existed. In fact, he says that Basilius caused the catalogues of libraries to be changed so as to read Gregorius instead of Nemesius, and Emesenus instead of Nyssenus.

Later this error was corrected by Anastasius Nicaenus, Moses Bar—Cepham, and in the editions of Valla and Ellebodius.

Cardinal Bellarmine in "Scriptores Ecclesiasticae ad Annum 300" in his *Observatio* 3 in Gregorium says: "The eight books of Philosophy do not seem to belong to Gregory," adding, "because he teaches that the soul is not created in the body, but pre-existed, which is the error of Origen."

Domanski states that the *Editio Basiliensis* 1562 of the works of St. Gregory of Nyssa, contains the "Libri Octo de Philosophia" which is bodily taken from Capt. II. and III. of the "De Natura Hominis" of Nemesius. But in the edition of 1571 (Johannes Leunclavius) these eight books of Philosophy are omitted.

EDITIONS OF NEMESIIUS.

In the sixth century a Latin translation of Nemesius was made by Johannes Philoponus, according to Fabricius (*Bibliotheca Graeci* Vol. VIII. p. 449.) Other early Latin editions mentioned by Domanski, are

those of Alfonsus of Salerno, in the 11th century, and Richard Burgun-
lius of Pisa, in the 13th century.

Johannes Cono brought out an edition in Nurnberg in 1512, and
Georgius Valla Placentinus at Lyons, in 1538.

Parellel Greek and Latin editions:—

Nicasius Ellebodius, Antwerp, 1565.

Fabricius, Oxford, 1671.

Matthaeus, Halle, 1802.

English editors:

"The Nature of Man," George Wither, London, 1636.

"The Character of Man Now Made English," London, 1657.

Italian, Pizzimenti, "Operetta d'un autor incerto."

French, . B. ThibaJult, Paris, 1844.

German, Osterhammer, Saltzburg, 1819.

The only important commentary on the works of Nemesius which
was available was that of Domanski B., "Die Psychologie des Nemesius"
in "Geschichte der Philosophie des Mittelalters" Bd. III., Heft i., edited
by E. Hertling, published at Munster (Aschendorff) in 1900. In this
article which deals with the psychological views of Nemesius, the follow-
ing references are given: Bender, "Untersuchungen zu Nemesius von
Emesa," Leipzig, 1898; Burkhart, "Zeitschrift, für d, Osterr.," Gymnas,
1899; Vol. 38, Evangelides Bargerites, "Zwei Kapitel aus eine Monograph
von Nemesius," Berlin, 1882; Müller, "J. Handbuch Der Kassisches Alter-
tumswissenschaft."

Of the life of Nemesius almost nothing is known. All that can be
gleaned is that he lived in Phœnicia in the time of the Emperor Theo-
dosius in the fourth century. He is said to be the first Bishop of Emesa,
though Ellebodius in Biblio. Pat. Vol. 2, maintains he was a pagan, pre-
fect of Cappadocia, and a friend of Gregory of Nazianzen.

Though Nemesius has been neglected by medical scholars, his ex-
ceptional worth has been recognized by some philosophers. Ritter in his
"Geschichte der Philosophie," Theil VI., page 463 (1841), says that he
showed a knowledge "einer in diesen Zeiten nur selten uns vorkommende
Gelehrtheit unter im Bosondern Kenntniss der Natur des menschlichen
Körpers, haben ihm vieles hob erworben, welches er auch als eine nüch-
terner und nicht urtheilloser Kenner der alten Literatur verdient," and
in a footnote, "Seine Kenntniss des Blutumlaufs wird besonders geh-
rümht. Das ihm etwas davon eigenthümlich angehörts, ist nicht wars-
cheinlich. Mit den Schriften der Artze, besonders des Hippocrates und
Galenus zeigt er sich bekannt.

Ritter shows that the whole argument of the book is to prove the doctrine of the freedom of the will, and that every other subject is treated briefly, and as incidental to the main theme.

A more enthusiastic appreciation of Nemesius is to be found in the "Histoire de la Philosophie" of Cardinal Zephirim Gonzales, Archbishop Seville. In the French edition of 1890, Vol. II., p. 57, we read: "Parmi les representants les plus authentiques de la Philosophie chrétienne en ce temps, l'on doit assigner un rang élève a l'auteur du traite." "De Nature hominis" œuvre trop ignorée des historiens de la Philosophie," again on page 61: "Bref, le livre de Nemésius est un traité de psychologie qui montre de grand développement que cette science avait recue durant le IVe siècle sous l'influence du Christianisme, et aussi, les progrès qu'elle auriat pu accomplir dans les siècles suivants, sans la double irruption des barbares du Nord et les fils de l'Arabie, et sans les ruines amoncelées par eux.

DISEASE OF ST. PAUL'S BAY, OR SYPHILOID OF CANADA*

ENGLISH DISEASE, ETC.

By D. King Smith, M.D.

THIS disease, which made rapid and extensive progress amongst the Canadians in a few years, began to show itself in 1760 amongst the natives of the banks of Lake Huron. In 1780 it appeared amongst the inhabitants of the shores of St. Paul's Bay, and in a few years spread over a great part of Canada, committed great ravages amongst some of the Indian tribes, and chiefly among the Ottawa Indians. In 1785, 5,800 individuals were known to be suffering from the disease in Canada, without counting those who did not give notice of their being affected; it was still unknown at that time, however, to all the neighbouring Indians.

It commenced, according to Swediaur, by small pustules on the lips, the tongue, the interior of the mouth, and more rarely on the genital organs.

These pustules, which at first resembled small aphthae, filled with a whitish puriform fluid, were so many germs of transmission. The matter contained in them was so virulent, that it infected those who eat with the same spoons, or drank from the same vessels, or smoked the same pipes. It was even observed to be communicated by the bed-linen, clothes, etc.

The disease was afterwards characterized by considerable deposits (tubercles), nocturnal pains in the bones, ulcers of the mouth and throat, complicated affections of the glands, sometimes suppurating, most frequently hard and indolent. Finally, the bones of the nose, the palate, the cranium, etc., became carious; the hair fell off, pains in the chest, cough, loss of appetite, etc., supervened, which announced the approach of death. Both sexes and all ages were equally liable to the disease; children suffered in great numbers.

REPORT ON CORONERS.

To His Honor Lionel Herbert Clarke, Lieutenant-Governor of Ontario.

MAY IT PLEASE YOUR HONOR,—Having been appointed by Royal Commission to inquire into and to consider and report upon (among other things) the best mode of selecting, appointing and remunerating Coroners, and generally to consider and report upon all matters pertaining to the placing of such office upon the most efficient and businesslike footing, we submit this interim report thereon.

The office of Coroner is an ancient one and may be traced back, in England, to the period of the Norman conquest. The coroner of those days was a most important functionary and had a variety of duties. He appears to have heard appeals in cases of felony, to have taken confessions and adjurations of felons who had fled to a sanctuary, to have kept a record of outlawries and to have conducted inquiries for and securing to the King treasure trove, wrecks, and the forfeited chattels of felons.

In Canada the office dates back to the earliest days of our history. On March 9th, 1780, Governor Haldimand issued an ordinance regulating and establishing Coroner's fees. Under this ordinance the Coroner was entitled "For summoning the jury, taking depositions, making the inquest and returning it" to £1.5.0., and the sub-coroner "For every inquest taken and the return thereof made agreeable to law" was entitled to 15 shillings.

It would appear that unnecessary inquests were sometimes held, for in 1850 an Act was passed which set forth that the existing regulations were insufficient and provided that inquests should be held only where the Coroner had reason to believe that deceased met his death by violence or by unfair means or by negligence, or when the deceased person was in confinement or a lunatic in an asylum.

About half of the Coroners appointed in the year 1855 were medical practitioners. In 1859 the proportion of medical men appointed had in-

creased to about three to one. Since Confederation about 95 per cent. of those appointed Coroners have been medical practitioners. It is only in the Judicial Districts of Northern Ontario that any laymen have been appointed of recent years.

The total number of Coroners in Ontario to-day is about 550. A considerable number of the Coroners are inactive and seldom hold an inquest. In Toronto there is a Chief Coroner to whom the cases arising are reported by the police. He allots the cases to the other Coroners (who are known as Associate Coroners) in regular rotation. The same course is followed in the city of Hamilton, in which city there is also a Chief Coroner.

At several points at which the Commission sat Coroners asked for increased fees, but generally they appeared to be satisfied with the fees now received. The Coroners are leading and influential citizens of the communities where they reside and many of them regard the services which they are called upon to perform as of a public character and the amount of the fees is a secondary consideration to them.

By statute of Canada passed in the third year of the reign of William IV, it was provided that if the Coroner's jury found a person guilty of murder or manslaughter, the finding should be equivalent to the finding of a Grand Jury and no further proceeding preliminary to trial—not even indictment by a Grand Jury—was necessary. This continued to be the law down to the year 1892.

By the Criminal Code adopted in that year the Coroner's Jury was deprived of power to indict anyone. The Coroner might direct that a person found guilty of murder or manslaughter by a Coroner's Jury be taken into custody and brought before a Magistrate, but, before such person could be committed for trial there had to be a preliminary hearing by the Magistrate and before trial indictment by a Grand Jury. Where, an inquest therefore was held and a person found guilty the preliminary proceedings had to be taken just the same as if no Coroner's inquest had been held. Yet notwithstanding the fact that the Coroner's jury has been shorn of its powers, Coroner's inquests are held and Coroner's juries are summoned just as they were before 1892.

The number of jurymen that serve at an inquest is fixed by Statute at not less than seven nor more than twelve. Generally the number summoned is not less than eight so that in the event of one being absent the inquest may not be delayed. Each member of the jury receives \$1.00 and mileage for each sitting. When the number serving is seven or eight and there is one adjournment the cost of the jury is usually more than \$20. Where there is more than one adjournment the

cost is proportionately increased. In 1919 the cost of jurymen at inquests in the County of Simcoe alone was \$583.00. In Toronto in that year there were 162 inquests, with 356 sittings and the average costs for jurymen was over \$25 per inquest and the total average cost per inquest including Coroner's and other fees was about \$80.

The power to indict anyone for a crime having been taken away from a Coroner's jury and a verdict of guilty not even having the effect of a committal for trial, should the jury be continued? That is a question that has been frequently raised before us.

Mr. R. H. Greer, formerly Crown Attorney for the County of York, says: "With the introduction of the Criminal Code the necessity for the Coroner's Jury sitting as such was gone. They do not initiate any more, but they recommend, and the inquiry must be started all over again in the preliminary examination and the Grand Jury. . . . I do not see any benefit in sitting two or three nights with a lot of jurymen."

Mr. J. W. Curry, M.P.P., formerly Crown Attorney for the City of Toronto, says: "I would not continue the Coroner's Jury, and if anyone had to be tried I would commit him at once to a Court of competent jurisdiction without the waste of time and expense of bringing him before a Court that has no greater jurisdiction than the Coroner's Court. At the present time we have duplication.

Mr. S. F. Washington, Crown Attorney for the County of Wentworth, said to us at Hamilton: "After the Coroner is through with the case the evidence has got to be all gone over again at the preliminary inquiry. I would not have the Coroner's Jury, I do not think it is of any use."

Mr. J. W. Seymour Corley, for many years Crown Attorney for the City of Toronto, says: "I would not have a Coroner's Jury."

The question as to whether or not the Coroner's Jury should be continued has already been dealt with to a limited extent by the Legislature. In 1911 a section was added to the Coroner's Act which provided that a Coroner with the consent of the Crown Attorney might hold an inquest without a jury in a Provisional Judicial District. This amendment has been taken advantage of in the District of Parry Sound. We are informed that it has worked admirably there.

When the Chief Coroner in Toronto allots a case to an Associate Coroner the Associate Coroner as a rule gets no other case until his name is again reached on the list. This rule applies where the Associate Coroner, upon investigation, decides that an inquest is unnecessary, and so reports, as well as in cases where he decides that an inquest is necessary and holds one. As the fee allowed the Coroner where there is an

investigation and no inquest is \$5, and where there is an investigation and an inquest is \$20, there is an inducement to hold an inquest. Former Crown Attorney R. H. Greer in referring to this situation says: "The doctor who is a Coroner only gets \$5 for sending in a return instead of getting his fees for an inquest and as the doctors are quite human they exercise their discretion and hold an inquest." Mr. Greer further states his opinion to be that in seventy-five per cent. of the cases in Toronto where inquests are held inquiries only would have sufficed.

The question as to whether or not a postmortem examination should be made, is also decided by the Associate Coroner to whom the case is referred. The postmortem is made, not by the Coroner himself but by another practitioner whom he calls in. The fee allowed for the postmortem and attendance to give evidence thereon at the inquest is \$20 and mileage. The practitioner who is called in to perform the postmortem is usually a Coroner who, when he gets a case, reciprocates by engaging the Coroner who employed him. Out of 163 inquests held in Toronto last year postmortems were ordered in 126.

The fee system tends to encourage multiplications of inquests and postmortems. But another cause that tends to make them so numerous is the large number of Coroners. One is surprised to learn that there are some 60 Coroners in the City of Toronto. At present each Coroner has so few inquests that he has not the incentive or opportunity to become proficient. Crown Attorney Eric Armour in speaking of present conditions, says:

"I think it would be in the public interest if there was a less number of Coroners so that they would be employed all the time and become more familiar with their duties. A man who only holds one or two inquests in the year is not very competent. . . . Only two or three should be employed to do the work."

At the last Session of the Legislature a further change was made in the Coroner's Act. By this amendment any Police Magistrate in a Provisional Judicial District may conduct an inquest at the request of the Attorney General or the Crown Attorney for the District. This amendment also has been taken advantage of in the District of Parry Sound. Crown Attorney Haight of Parry Sound, in reply to our inquiry as to its operation there said:

"I think it is a splendid improvement. . . . If all Police Magistrates had the power of a Coroner it would work out wonderfully. . . . I think a Magistrate can take the evidence more satisfactorily than a doctor."

Others who have appeared before us, while not having had the opportunity which Mr. Haight has had of observing the system in operation, strongly advocate the holding of inquests by Magistrates.

Mr. W. C. Livingston, Police Magistrate at Brantford says: "I presume a Magistrate could conduct an inquest just as well as a Coroner and that would save the money paid to the Coroners."

At the sitting of the Commission at Barrie, Mr. W. A. Boys, M.P., said: "I have thought that Coroners' inquests could be better conducted by the Police Magistrate by calling in the medical men as witnesses. The expense of Coroners' inquests is getting to be enormous."

Mr. R. H. Greer, former Crown Attorney for the County of York, says: "The question of Coroners' inquests is a big one and is grossly abused. The present form of Coroners' inquests I think should be abolished, and I think Magistrates, or men who are called Coroners, should be appointed with the jurisdiction of a Coroner. . . . having one doctor and one Magistrate would solve all the difficulties of the Coroners' inquests."

Mr. J. W. Curry, M.P.P., speaking on the subject, said: "I think their (the Magistrates) duties ought to be added to, and they should conduct all Coroners' inquests. Doctors should be appointed to make the autopsy and to advise whether an inquest should be held. I think a properly qualified Magistrate would be better able to conduct an inquest than a physician. . . . would have the medical men make an autopsy and give evidence as to the cause of death, and have the investigation conducted by a Magistrate."

Mr. J. W. Seymour Corley, Crown Attorney for the City of Toronto, says: "I would suggest . . . that the Magistrate should assume the Coroner's duties."

Crown Attorney H. O. Smith, of Kent County, says: "I would have the investigation conducted by a Magistrate. . . . I have not yet met a Coroner who could see things that other people could not. In nine cases out of ten a medical man is called and is asked what was the cause of death and he could tell that to a Magistrate."

His Honor Judge Vance at Barrie, said: "I am strongly of the opinion that Magistrates should conduct a Coroner's inquest."

Crown Attorney Bowlby of Kitchener, says: "I think the physician is the best man to make an inquiry and the inquest might be held by the Police Magistrate."

Dr. Rodford, Mayor of Galt, said to us: "I suppose the Police Magistrate would be as fully qualified, if not a little better, than the ordinary physician, because a Coroner will probably only have two or three cases during the year and he would not have a wide experience in taking evidence. The preliminary investigation ought to be made by a doctor."

Dr. A. G. Arnell, Coroner, of Barrie, says: "There is no doubt that a Magistrate could do the work of taking the evidence better than a doctor because he would have more experience."

A physician possesses special qualifications for determining the cause of death and in our opinion a physician (who might well be called an Associate Coroner) should make the preliminary inquiry. A Magistrate skilled in the examination of witnesses and in all that pertains to bringing out the facts is in our opinion the proper person to conduct an inquest. Whenever a case in which an inquest may be necessary is reported by the Police it should be referred to the Associate Coroner for investigation. Upon completing the investigation the Associate Coroner should make a report to the Crown Attorney. If in the opinion of the Crown Attorney there should be an inquest he should at once notify the Magistrate, whose duty it would then be to hold one. If this course were adopted the inquiry would be made by an official best qualified to make it and the inquest would be held by an official best qualified to conduct it. If the recommendations of this Commission for the appointment of District Magistrates should be carried into effect he inquest should be conducted by the Magistrate for the district where the accident or misadventure resulting in the death occurred. If the inquest should not be conducted by the District Magistrate it should be conducted by a Magistrate selected by the Crown Attorney from the Magistrates of the County or District. A salaried Magistrate should conduct an inquest as part of his regular duties and there would be no extra charge for his services. If at any time during the inquest it should appear that a certain person was guilty, that person could be brought before the Magistrate and the proceedings turned into a preliminary inquiry and the party secured committed for trial if the evidence should be sufficient to justify committal.

The number of Associate Coroners for any County or Judicial District should be based upon distance to be travelled, the population and the amount of work likely to be required. With fewer Associate Coroners each one would have more experience and would be able to do his work more efficiently than now. As a general rule the Associate Coroners should be paid by fees. If the proposed changes be made the present objections to payment by fees would be removed.

Toronto is surrounded by suburbs which in many senses form a part of the city, yet while the County Crown Attorney has jurisdiction in the matter of inquests in both city and country the jurisdiction of the present Chief Coroner at Toronto ends with the city boundaries. Compli-

ocations frequently arise through a body in respect of which an inquiry or inquest is to be held being removed from one jurisdiction to another. In our opinion the county should be the unit and the jurisdiction of the Coroners and Associate Coroners should be for the whole County of York, including the City of Toronto.

For the whole County of York there might well be six or eight Associate Coroners, one of whom should be Chief Associate Coroner and who could call upon the other Associate Coroners whenever he might require their help. This should be a sufficient number for any emergency. The police should report to the Chief Associate Coroner any cases in respect of death it would appear that an inquest might be necessary and he or an Associate Coroner designated by him should investigate and report to the Crown Attorney. The Chief Associate Coroner and the Associate Coroner should be paid salaries based upon the amount of work performed. There might also be a Chief Associate Coroner for the County of Wentworth including the city of Hamilton with such number of Associate Coroners as might be necessary. In Toronto the work of conducting inquests might be divided among the Magistrates.

Medical men advise us that the general practitioner does not as a rule possess the special knowledge and experience that is necessary for the performance of a proper autopsy. Autopsies should, as a rule, be performed by Chief Associate Coroners or Associate Coroners and the practitioners selected for these positions should be men well qualified to perform autopsies. No autopsy should be made without authority from the Crown Attorney.

If the inquest were conducted by a Magistrate possessing first rate qualifications and sitting in open court with that full publicity that now attends Coroners' inquests would it be necessary to continue the Coroner's jury? The prevailing opinion expressed before us is that it would not. We are told that at an inquest conducted by a Magistrate sitting alone the facts would be brought out more fully than they are to-day by a Coroner and jury. We are inclined to accept this view. At the same time we are impressed with the importance of avoiding all possible ground for public suspicion that anything is being concealed or covered up. It is not only important that there should be no ground for suspicion but it is important that public suspicion should exist whether based on any ground or not.

The presence of a Coroner's Jury at an inquest introduces an unofficial element into the inquiry and sometimes results in a fuller examination of the witnesses. With great respect for the opinions ex-

pressed before us that the Coroners' Jury should be dispensed with, we feel that it would be unwise to abolish it at present. At the same time we believe that there are many cases where to have a jury is to incur needless expense. The amendment made in 1911 already referred to, under which a Coroner may, with the consent of the Crown Attorney, dispense with a jury appears to have worked satisfactorily so far as it has been acted upon and we recommend that it be extended so as to apply to the whole Province instead of to Provincial Judicial Districts only. If this were done the public would then have an opportunity of seeing how this change would work in a wider field. If it should work satisfactorily the Legislature could then enact that there should be no Coroners' Juries except in cases where the Attorney General or the Crown Attorney having jurisdiction should direct that one be summoned.

Section 11 of the Coroners' Act provides that where the death of any person appears to have been caused in the construction or operation of any railway, street railway or electric railway there shall be an inquest. Our attention has been called to the number of cases where it has been quite clear that death was due to natural causes, but where, owing to the provision in the statute hereinbefore mentioned an inquest has been held. It has been urged by some that no distinction should be made between accidents happening on railroads and accidents happening elsewhere. While we have no doubt that owing to provision in the statute mentioned inquests are held in many instances where death is due to natural causes, we believe that the existence of this law has, on the whole, a salutary effect which more than counter-balances the cost of inquests in those cases and we do not see our way recommend the repeal of the statute mentioned.

Cases have been brought to our attention where an accident which has caused the death of the party upon whose body the inquest is held has taken place in one county and the party has been removed to a hospital in another county and has died there. Other cases have been brought to our attention where a body has been removed from the county where the death took place to another county. In the first class of cases the inquest has been held in the county where the death occurred, in the other case the inquest has been held in the county to which the body has been removed. In each instance witnesses have had to travel long distances at considerable expense and inconvenience and the cost of the inquest has been charged against the county from which the injured person or the body has been removed. The public interest would, we believe, be promoted if the inquest were held in the county where the

accident or other misadventure happened, and in cases where the body is removed after death, in the county where the death occurred.

If a Coroners' Jury be continued its character must be improved. At the present time little or no care is taken in its selection. Mr. Smith, Crown Attorney for Kent, said to us, "The jurymen are picked up on the street and in nine cases out of ten they are not qualified." In cities we often have the professional jurymen who has a friend on the police force and year after year the same familiar faces are seen in the jury box. The jurymen should be chosen from among the residents of the district where the accident or death has occurred and should be citizens of character and intelligence and good standing in the community.

It frequently happens that a person suspected of having committed a crime which is the subject of investigation is refused the opportunity to appear before a Coroner and examine witnesses. If he is heard at all he told that he is heard only as a matter of courtesy. In our opinion any one under suspicion or otherwise directly interested in the proceedings should have the right to be heard at the inquest and be given reasonable opportunity to question the witnesses. If inquests were conducted by Magistrates, fuller opportunity might be given them, if conducted as at present by physicians.

Our recommendations may be summarized as follows:—

1. That, except in the Counties of York and Wentworth, the preliminary investigation in cases where it appears that it may be advisable to hold an inquest, shall be conducted by an official to be known as an Associate Coroner, who should be a medical practitioner.
2. That the Associate Coroner shall report the result of his inquiry to the Crown Attorney who, if he is of opinion that an inquest should be held, shall notify the District Magistrate, or if there is not a District Magistrate then a Police Magistrate having jurisdiction in the county or district, whose duty it shall then be to proceed forthwith to hold an inquest.
3. That in the County of York (including the City of Toronto) and in the County of Wentworth (including the City of Hamilton) there shall be a Chief Associate Coroner with, say, six or eight Associate Coroners in the County of York and four or less in the County of Wentworth, and that in each county the inquiry shall be conducted by the Chief Associate Coroner or by any Associate Coroner designated by him, and that the Chief Associate Coroner or Associate Coroner, as the case may be, shall report the result of his inquiry to the Crown Attorney, who, if of opinion that an inquest should be held, shall notify a District and Police Magistrate having jurisdiction in the county or district in

which the accident or misadventure happened and that Magistrate shall then held an inquest.

4. That an autopsy shall, as a general rule, be performed by the Chief Associate Coroner or an Associate Coroner, but that there shall be no autopsy unless it is first authorized by the Crown Attorney.

5. That the provision of the existing statute authorizing the Coroner with the consent of the Crown Attorney to dispense with a jury shall be extended and made to apply to the whole Province.

6. That all witnesses at Coroners' inquests shall be paid witness fees and mileage, and that the amount that each witness should receive shall be certified to by the Magistrate conducting the inquest and by the Crown Attorney.

7. That every inquest shall be held in the County or District where the accident or misadventure happened.

8. That greater care be taken in the selection of jurymen, who should be citizens of character, intelligence and good standing.

9. That where an inquest is conducted by a Magistrate anyone under suspicion or otherwise directly interested in the proceedings at an inquest, shall have the right to be heard and to question witnesses.

W. D. GREGORY, Chairman
 HORACE L. BRITTAIN
 NORMAN SOMMERVILLE
 ALBERT HELLYER
 E. A. POCOCK.

PERSONAL AND NEWS ITEMS

Miss Catherine O'Malley, a telephone operator, has brought suit for \$50,000 damages against Dr. Frederick Seville, of Chicago, charging malpractice. Through her attorney, she declares Dr. Seville left four yards of gauze in the wound after operating on her for appendicitis Nov. 1, 1919; that in operating a second time to remove the gauze he took out only one yard; and that after suffering and being unable to work, she called in another surgeon, who took out the remaining three yards.

Nineteen cases of smallpox have been discovered in New York city since January 1. Health Commissioner Copeland said, in warning, that the disease is being brought here from New Jersey, Canada and Europe.

A Toronto citizen, Dr. Moffit Foster, 486 Ossington avenue,

passed his ninetieth birthday on April 3rd, 1921. His five children, two sons and three daughters, with their wives and husbands, his grandchildren and great-grandchildren, with many other friends, celebrated his birthday with feasting, reminiscences, songs and renewals of friendships of the years.

Dr. William Charles White of Pittsburg has been appointed Chairman of the expert medical board, which is to have supervision of the hospitals of the United States. He was in Washington recently preparing for the work of selecting and recommending sites for five hospitals to be erected for the rehabilitation of wounded soldiers, for which an appropriation of \$12,000,000 has been made. Dr. White is a native of Woodstock, being a son of Mrs. James White, and he has achieved more than a continental reputation by his work in connection with the treatment of tuberculosis. He is a director of the Pittsburg Tuberculosis League, which has done notable work in the war against that disease.

The International Red Cross committee meeting in Geneva, Switzerland, on 30th March, 1921, elected as president Gustav Ador, former president of Switzerland, and as vice-presidents Sir Edward Stewart of Great Britain, Dr. Livingstone Farrand of the United States, and Signor Ciralo of Italy, General Mille of Spain, M. Kuwato of Japan, M. Cederkrantz of Sweden and J. S. Guechoff of Bulgaria. Gustave Ador, president of the International Red Cross, in his opening address, said that France had expressed regret that its representatives could not attend owing to political reasons. He declared that the Red Cross must remain universal without politics and maintain its international solidarity. Seven commissions were appointed to report on conditions, extending from famine to the limitations of civil war.

James S. Eslinger, 54, who has been asleep for nearly three years, awoke recently in the county hospital in Fort Smith, Arkansas, yawned, and then went back to sleep, according to the nurse attending him. He did not speak, she said, but he was awake. Eslinger entered the hospital in 1914, a sufferer from pellagra, physicians say. In August, 1918, he fell into the sleep which was broken for the first time recently. He has not lost weight during his long sleep.

That syphilis causes a substantial percentage of existing insanity has long been recognized, but heretofore definite statistics bearing on the subject have been meagre. To supply this need the U. S. Public Health Service queried the number who had become insane by reason of the disease. Of the 115 replies received, 88 supplied data that could be tabulated; and from this, it appeared that 15.5 per cent. of admissions

and 6.2 per cent. of inmates among the men, and, correspondingly, 6.1 and 2.2 per cent. among the women were directly due to the disease. The excess in the percentage of admissions over inmates is due to the comparative short life of those who became insane by reason of the disease.

Dr. Gilbert H. Grosvenor, President of the National Geographical Society of America, stated recently in his address in Convocation Hall, University of Toronto, that he had published the picture of a skull found in Java that was at least 500,000 years old.

It is stated that there are 160,000 mentally disabled people in Canada. About 40 per cent. of the prisoners in our jails are of unsound mind. The asylums cost Ontario nearly \$2,000,000, and Canada \$6,000,000. Healthy, wholesome occupation is the best of all remedies.

Toronto is again the scene of a series of headings by the laying on of hands, the anointing the sufferers, and an appeal for faith. A number of persons are reported to have been cured. The power of suggestion is sometimes very amazing. Before and after would be an interesting study in these cases.

OBITUARY

FRED. J. WHITE, M.D.

Dr. Fred . White, a prominent physician and citizen of Moncton, and one of the best known medical practitioners in the eastern part of New Brunswick, died suddenly at his home here on 10th April as the result of a stroke of apoplexy. He was in his 57th year, and is survived by his wife and one daughter. Deceased was a native of Newfoundland. He was a graduate of Mount Allison and McGill.

A. W. NIXON, M..D.

Dr. A. W. Nixon, for fourteen years M.P.P. for Halton, died 8th April at Guelph after a lingering illness. In the general election of 1919, with many other supporters of the Hearst Government, he was defeated. In a three-cornered contest he ran second, polling 1,054 votes less than . F. Ford, the successful U. F. O. candidate.

Alfred Westland Nixon, M.D., C.M., was born at Stewarttown, Ontario, in 1863, of Irish and Scotch parents. He was the son of Edward

Nixon, one of the pioneers of that district. He was educated at Brampton High School and Trinity University. In 1903 he married Miss Bessie Barber of Georgetown.

For several years Dr. Nixon sat in the Town Council, and in 1901-2 was Reeve. While Reeve, he first contested the riding in Provincial politics. In the general election of 1902, he was the Conservative candidate and was only 16 votes short of being elected. In 1905, when the Liberals were swept out of office, he was elected and he fell when his party fell. In the intervening elections of 1908, 1911, 1914 he was returned each time with a comfortable majority.

In the community life of Georgetown he played a conspicuous part. He was one of the most popular physicians who ever practised here. He was an active member of the Anglican Church.

A year ago he had a paralytic seizure from which he never wholly recovered.

He is survived by his wife and one brother, R. C. Nixon.

THOMAS P. CAMELON, M.D.

The death occurred in Detroit, 7th April of Thomas P. Camelon, prominent specialist in throat diseases and a native of London, Ont. Dr. Camelon died from pneumonia contracted while answering a call to duty. His father was Rev. David Camelon, of London, Ont., where the deceased was born. Dr. Camelon was a graduate of Queen's and McGill Universities and had practised in Detroit for the past quarter of a century. He served as a Major in the A.E.F. forces during the war and was in charge of field hospitals in France. Surviving, besides his wife, are two sisters, Mrs. Wm. Delaney, Cobourg, Ont., and Mrs. Frederick Weir, of Peterboro, Ont., and one brother, John Camelon, a physician, of Chicago. The funeral was held in London under Masonic auspices.

JOSEPH R. LANCASTER, M.D.

Dr. J. R. Lancaster, of Tillsonburg, passed away 17th April, living 24 days after having his back broken on March 24, when his car was struck by a Michigan Central Railway express at the town crossing on North Broadway, despite the efforts of some of the most eminent specialists in the country to save his life. He was a well-known and highly esteemed citizen of the town and district, and as a physician was making wonderful progress in his chosen profession.

He was born at Culloden, and first practised at Mount Elgin, later going to Tillsonburg, and after a few years moved to St. Thomas, subsequently going to New York city. On completing his post graduate course in that city he returned to Tillsonburg and purchased the Dr. McDonald estate on Harvey street, enjoying a very large practice. He was very prominent in local lodges, being the physician for Otter Lodge, No. 50, I.O.O.F., and a member of King Hiram Lodge, A. F. & A. M. In politics he was a staunch Liberal and a keen supporter of Sir Wilfrid Laurier.

Besides his wife, he leaves one sister, Mrs. Staples of Woodstock, and three brothers, Drs. W. and Blake, and Robert, all in Dakota.

The deceased was in his forty-eighth year. The funeral was held from his late residence Wednesday 20th April at 2 o'clock to the Mount Elgin Cemetery.

WILLIAM ROLSTON SPARLING, M.D.

News reached Toronto, on 17th April, of the death of Dr. Wm. Rolston Sparling, formerly of Toronto and Wingham, who died on Thursday the 14th, of septic poisoning, at Eden, Saskatchewan. He was well-known throughout Huron County as well as in Toronto. He was born at St. Mary's, Ont., about 55 years ago, was educated in Toronto and Winnipeg, graduating in Medicine from the University of Manitoba. He was twice married, his first wife pre-deceased him about 18 years ago leaving one son, Frank, now living in Toronto. The others surviving are his widow and infant son, his mother, Mrs. F. G. Sparling of St. Mary's, four brothers and four sisters. One brother, Rev. Geo. Sparling, is a missionary of the Methodist Church in China.

BOOK REVIEWS

SURGICAL CLINICS OF NORTH AMERICA.

February, 1921, Volume 1, Number 1, Philadelphia number. Published Bi-monthly, W. B. Saunders Company, Philadelphia and London. Price per year \$12.

This is a specially good number. The whole series is one of the very best and must prove a boon to all surgeons, as the articles are all of much value. The paper, press work, and illustrations are superior in character.

INTERNATIONAL CLINICS.

A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, etc., etc., for practitioners and students. Edited by H. R. M. Landis, M.D., Philadelphia, U.S.A., Vol. 1. Thirty-first Series, 1921. Philadelphia and London, J. B. Lippincott Company, 1921. Price, \$2.50 per volume.

This is an excellent number in a long and excellent series of volumes. The clinics, the articles on medicine, paediatrics, industrial medicine, and surgery are all of much interest and value. These volumes in themselves would constitute a good library. We can recommend this series very highly.

HYPERTHYROIDISM

Harrower's Monographs on the Internal Secretions, Hyperthyroidism, Medical Aspects, Vol. 1, No. 1, January, 1921. Edited by Henry R. Harrower, M.D., F.R.S.M., London. Published quarterly by the Harrower Laboratory, M. D. East Broadway, Glendale California. Price, per copy, \$1.50; Annual subscription, \$3.00 in advance.

This is a very careful and complete study of hyperthyroidism from the medical aspect. The etiology, the symptoms, the diagnosis, the prognosis, and the treatment are set forth in a very clever and satisfactory manner. We like this volume very much, and can cordially recommend it.

ATLAS OF SYPHILIMETRY.

By Dr. Arthur Vernes, Directeur de L'Institute Prophylactique de Paris. The experimental conditions about the suppression on extinction of syphilis. Library of Felix Alcan. Price, 35 Francs.

This volume of charts and plates goes very fully into the method of performing the Wasserman test, and its value in proving the presence or the absence of the disease. The author has adopted a very interesting way of setting out the importance of the test and how far it may be relied upon. The author contends that unless the reaction becomes negative the disease is not cured.

MISCELLANEOUS

WHAT DOCTORS DIE FROM.

Even these enemies of death, the doctors, must die. How well do they resist the adversary? The Journal of the American Medical Association gives an interesting set of figures for the year just past. Of 2,272 physicians dying in the United States and Canada during 1920, whose

age was stated, 38 were under 30; 174 between 31 and 40; 351 between 41 and 50; 463 between 51 and 60; 541 between 61 and 70; 436 between 71 and 80; 208 between 81 and 90, and 19 between 91 and 100. The greatest number of deaths for a given age occurred at 63 and 64 years, at each of which ages 65 deaths were noted.

Causes of death—General diseases accounted for 257 deaths; diseases of the nervous system, 271; diseases of the circulatory system, 404; diseases of the respiratory system, 266; diseases of the digestive system, 70; diseases of the genitourinary system, 154; senility, 77; suicide, 32; accidents, 102; homicide, 14, and sequels of surgical operations, 74. The principal assigned causes of death from disease and their frequency were: Organic heart disease, 236; cerebral hemorrhage, 214; pneumonia, 186; nephritis and uraemia, 142; malignant tumors, 91; tuberculosis, 59; angina pectoris, 50; pneumonia-influenza, 37; arteriosclerosis, 33, myocarditis, 34, septicaemia, 31; influenza, 29; diabetes, 28; meningitis, 17; cirrhosis of the liver and acute dilation of the heart, each, 16; endocarditis and anaemia, each 15; peritonitis, 12; and appendicitis and gastritis, each 11.

INCREASE IN NUMBER OF DIPHTHERIA CASES.

The March health returns for Toronto show a small increase in the number of diphtheria cases. Following are the statistics:

	Mar. 1920	Feb. 1921	Mar. 1921
Diphtheria	202	217	235
Scarlet fever	216	221	190
Typhoid	1	6	7
Measles	449	34	50
Smallpox	127	33	26
Tuberculosis	69	58	77
Chickenpox	65	136	133
Whooping cough	32	79	82
Mumps	274	13	13
Diphtheria carriers	24	50	21

DISCARD QUACKS IN FIGHTING DISEASE.

Only certified medical practitioners may practise upon venereal cases in the province of Ontario, and neither quacks nor quack medicines prevail in the general means to combat this disease. This was the state-

ment made by Dr. J. W. S. McCullough, provincial officer of health for Ontario, yesterday afternoon before an interested gathering of students of sociology at the social service building, University of Toronto.

Among those present at the session was Miss Violet Trench, the well-known British lecturer upon the subject. Professor Dale was the chairman of the meeting.

Dr. McCullough in his address stated that the co-operation of the press had done much to eliminate the quack and his remedies from the homes of those afflicted with the disease. He outlined the laws governing the province respecting victims of venereal diseases, and pointed out that Ontario had twelve clinics, all running in excellent order and all of very high calibre. This was more than many of the finest states in the United States could say. The clinics opened in May, 1920. They treated 44 cases that month, but the figures rose rapidly during the months following. In June they treated 311, 600 in September, 861 in October, 1,116 in November, and 1,285 in February, 1921. Toronto, from July, 1919, to November, 1920, reported 3,849 cases of venereal disease out of a total population of 512,812.

"The only way to get and retain the confidence of the afflicted is to assure them that their condition will not be made public," said Dr. McCullough, "and that is why reports of diseases are given by number and not by name."

SASKATCHEWAN MENTAL SURVEY.

The report of the Saskatchewan Survey conducted by the Canadian National Committee of Mental Hygiene which was begun last June and conducted by Dr. C. K. Clarke, medical director, and Dr. C. M. Hincks, assistant medical director, has recently been submitted to the Government. The Report gives details respecting the enquiries of the Committee into Public Schools, Gaols, Boys' Detention Home, Juvenile Court, Maternity Homes, Children's Aid Shelters, The Provincial Hospital for the Insane, and the Home for Mental Defectives. While in general terms commending the provincial institutions and congratulating the province on the zeal of the Government to promote public education and "the fearlessness it has shown in elaborating a vigorous educational policy," it suggests a number of important recommendations, which may in time find a place on the statute books. The proposed measures include a Division of Mental Hygiene attached to the Provincial Department of Education; special classes and other provision for the training and treatment of mental abnormals, and mental hygiene instruction for

teachers. It is recommended that teachers in rural schools where defectives are in attendance, be granted special remuneration for the mentally handicapped, and that a Mental Hygiene Course should be provided during the Summer months at the Normal Schools in Regina or Saskatoon.

Other recommendations are: A training school on the farm colony plan for mental defectives; two small Psychopathic Hospitals for the observation and early treatment of cases of mental disease; provision for voluntary admission and for the acceptance of patients in the provincial hospitals by the certification of two physicians; abandonment of the present airing court at Battleford provincial hospital; establishment of social worker for patients on parole; further development of occupational therapy; removal of feeble-minded and epileptic patients as soon as possible from Battleford to Weyburn and, later, to the proposed training school for mental defectives; utilization of psychiatrists in connection with courts, gaols and reformatories; conversion of Detention Home for Boys at Regina into an observation centre and clearing house for juvenile delinquents establishment of a number of juvenile courts throughout the province; the gradual abandonment of the old gaol system to be replaced by modern gaol farm methods; provision for the services of psychiatrists for Maternity Hospitals and Children's Shelters.

RELIEF OFFICE BUSY.

General lack of employment and prevailing unsettled conditions have made the Toronto Relief Office a very busy place this last few months. During March, 902 applications for relief were made, and of this number 824 requests were granted and 78 were refused. Collections on part payment of hospital maintenance amounted to \$804.55. An itemized statement of the relief given during the month follows:—

	Applications.	Approved.
Admission to hospital	746	675
Home for Incurables	1	1
Consumptive Sanitaria	38	38
Burial orders (adults)	1	1
Burial orders (infants)	8	8
House of Industry	3	2
Infants' Home	7	7
Provisions and fuel	67	65
Groceries	1	1
Transportation	29	25

BURIALS IN TORONTO SHOW LARGE DECREASE

There were nearly 100 fewer burials in the Toronto cemeteries in March of this year than in March of 1920.

The returns follow :

	1920	1921
Mount Pleasant	147	127
Necropolis	29	23
Prospect	245	216
St. John's	150	121
St. James'	40	28
Mount Hope	67	56
St. Micvhael's	11	6
Totals	689	597

BEQUESTS OF LATE J. H. WALKER.

The late J. H. Walker, of Detroit, left the following bequests: To the governors of the University of Toronto for students' residences, \$15,000; governors of St. Andrew's College, Toronto, \$10,000; Home of the Friendless, Windsor, \$5,000; Hotel Dieu, Windsor, \$5,000; Town of Walkerville, Ont., towards the building of a General Hospital, \$25,000; Endowment Fund of St. Mary's Church, Walkerville, Ont., \$20,000; Endowment Fund of Christ Church, Detroit, \$15,000; Children's Free Hospital, Detroit, \$25,000; Harper's Hospital, Detroit, \$10,000; Holiday House, Detroit (Girls' Friendly Society), \$2,500; Franklin Street Settlement, Detroit, \$1,000; St. Paul's School, Concord, N.H., \$5,000; Epsilon Association, New Haven, Conn., \$5,000.

EFFORTS TO PROMOTE HEALTH.

V. C. H. McKimm of Smith's Falls, representing the Red Cross Headquarters Division of Toronto, addressed a meeting in Renfrew on 9th April of the members of the local Red Cross Society, together with other residents, on behalf of a world-wide crusade for good health. It was urged that a society be formed for the purpose of co-operating with the Dominion and Provincial authorities in enforcing laws of health. It was decided to hold a public meeting at an early date to explain the plan thoroughly to the general public.

The Provincial Health Board will be asked to permit two districts nurses for eastern Ontario to visit Renfrew for the purpose of giving demonstrations.

Health Officer Dr. McCann, who was at the meeting, stated that health conditions in Renfrew show a steady improvement; last year there were only 55 deaths in town, as against 110 in 1919.

REPORT ON TUBERCULOSIS.

Sub-standard shops, an efficient nursing system, sheltered employment, the establishment of industrial colonies, and the development of clinics in all centres throughout Canada, were recommended as efficient aids in the fight against tuberculosis by Colonel William Hart, tuberculosis expert of the D.S.C.R., before the Parliament Committee on Soldiers' Civil Re-establishment.

Colonel Hart presented the report of the Board of Tuberculosis sanatoria consultants, which was compiled after an extended examination of the whole problem, both among the soldier and civil populations throughout the Dominion. He drew especial attention to the statement that pensions of tubercular patients discharged from sanatoria should be maintained on a scale sufficient to provide after sanatorium treatment, if relapses were to be prevented. As another means of fighting the relapse problem, Colonel Hart advocated the establishing of clinics at strategic points across Canada where discharged patients could secure advice. Patients discharged from sanatoria would need advice until their deaths, he informed the committee.

BRAMPTON MEMORIAL HOSPITAL.

A meeting of the people of the town and country interested in the Brampton Memorial Hospital was held in the concert hall on 19th March, with S. Charters, M.P., in the chair. The meeting was addressed by Dr. Grover, superintendent of the Fergus Hospital, who told the gathering of the value of a small hospital in a municipality, and of the inestimable work that can be accomplished by such an undertaking especially among children. On being asked what he thought it would cost to erect and equip a hospital of 25 beds in the town, he suggested \$40,000 as the possible cost at the present time. Miss Edith Dickson, superintendent of the Western Hospital for consumptives, gave a talk on the place of the nurse in hospital work. She said that a hospital did no more and received no more credit than the personnel of the nurses achieved for the hospital. She also gave an estimate of the staff, that would be required by a 25-bed hospital. The following were then ap-

pointed as the permanent committee: S. Charters, M.P. for Conover, Russell Hewebon, T. H. Fraser, G. W. McFarland, James Harmsworth, Mrs. Dr. Vanderlip, Arthur Fletcher, Fred Lindner, Mrs. W. J. Hunter, Miss Helen Beardmore of Port Credit, Dr. French, Mrs. R. Crawford, Mrs. Dr. Hall, Mrs. James Martin George of Akehurst, George Bland of Toronto Gore, Will Fraser of Huttonville, James Steen of Meadowvale. The committee will apply for a charter at once when organization will be effected for a canvass of the town and county.

MEDICAL PREPARATIONS

THE ART OF THE THERAPEUTIST.

It is pleasant to think of therapeutics as an art rather than as a cold science. The thought suggests the mature artist who, through the medium of a few well-chosen tints, is capable of giving expression to his fancy or his emotions.

To the ingenuity of the artist may be likened that of the therapist who selects his agents with consummate skill. He applies them deftly, here and there, as the artist touches the canvass with his pencil, with results that are definite because he has in mind a definite plan of procedure. Even the selection of a simple laxative—Pill Alophen, for example—is not a haphazard act, but entails the exercise of judgment and skill based upon experience and a comprehensive knowledge of physiology and therapeutics.

The physician skilled in his art clearly sees certain indications for Pill Alophen—the necessity of relieving an over-distended colon with the least possible disturbance of a delicate organism, perhaps. He mentally reviews the list of available laxatives, to most of which there is some contra-indication—they do not exactly suit the conditions; they do not blend into the therapeutic scheme, so to speak. But Pill Alophen presents no such objection. Its action is mild, gentle, yet thoroughly efficient. Its administration offers no difficulty—it is beautifully coated with sweetened chocolate. But one pellet is sufficient in most cases, preferably taken at bedtime, and the result is all that one could wish—an easy, complete evacuation in the most natural way imaginable.

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Serving Desire and Safety

Those who are convalescing, and those who are tending toward illness, often present a problem for the physician, in the matter of the meal-time drink.

To gratify the desire for the usual hot beverage will frequently contribute to a more cheerful and confident mental state. Yet the doctor realizes the necessity for safeguarding nerves and digestion.

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THE IMPORTANCE OF NUTRITIVE REPAIR

The importance of Nutritive Repair, in the treatment of all bodily disorders, associated with loss of weight and general vitality, is too patent to need more than passing emphasis. The question of how best to bring about such a desirable result is, however, one that the physician is daily called upon to answer, and upon his ability to "build up" his more or less devitalized patients will largely depend his success in the treatment of chronic affections. Taking, for example, a patient suffering from Pulmonary Tuberculosis in the incipient or secondary stage, what are the approved measures to adopt to bring about improvement of nutrition and a consequent gain of weight and strength? All phthisiotherapists now agree that the therapeutic trinity of salvation for the tuberculosis invalid is composed of: 1—Fresh, pure air, in abundance, both night and day; 2—A properly balanced ample supply of nutritious food; 3—Plenty of rest, especially during the febrile period.

While medication is useless, unless the patient is properly fed, "ventilated" and rested, as above referred to, there is no doubt that intelligent medical treatment, designed to promote nutrition, is indicated in a majority of cases. If the tuberculous patient has been neglected, for any length of time, some degree of anemia is almost always present. In such cases, an absolutely bland, non-irritant, readily tolerable and assimilable form of iron such as exists in Pepto-Mangan (Gude), cannot be but of benefit, by stimulating the formation of erythrocytes and hemoglobin and thus augmenting the oxygen-bearing potency of the blood. Metabolic interchange is thus quickened, better absorption and assimilation of food follows, and as a consequence, nutritive repair is encouraged and hastened.

CIGARETTES AND MOTORING

Increased use of automobiles in Canada is one cause to which the present popularity of the cigarette is ascribed. When people are out motoring—whether it be for a short spin or an extended tour—it frequently happens that there is opportunity for a smoke. Besides being the most convenient form of smoke on such occasions, the cigarette gives motorists an enjoyment and satisfaction which doubles the pleasure of an outing. There are other occasions too, when the smoking of a cigarette awakens happy memories of bygone tours.

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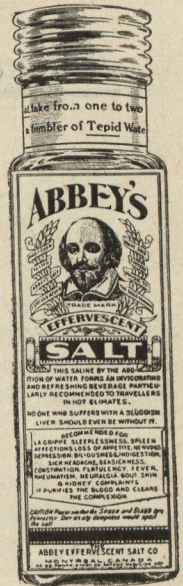
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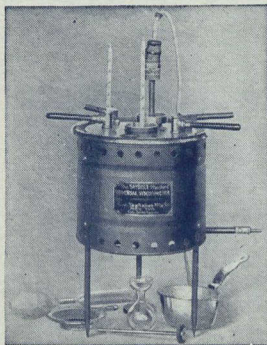
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Pill Alopen— efficient, non-gripping

FORMULA

Aloin, 1/4 grain.
Powdered Strychnine, 1/80 grain.
Extract Belladonna leaves, 1/12 grain.
Powdered Ipecac, 1/15 grain.
Phenolphthalein, 1/2 grain.

Aloin stimulates the muscular coat of the colon; increases peristalsis.

Strychnine prevents the depressing effect of purgatives.

Belladonna prevents griping; increases peristalsis.

Ipecacuanha stimulates hepatic secretion.

Phenolphthalein stimulates intestinal secretion; produces a soft stool.

Prescribe one or two to be taken at night for an effective yet non-gripping evacuation in the morning.

Pill Alopen is chocolate-coated, small in size and oval in shape. It is supplied in bottles of 100.

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