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Modern Trends in Psychiatry

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PSYCHIATRY, as all other sciences, emerged from superstitions and misconceptions. Mental illness, left for a much longer time than bodily ailments almost entirely in the hands of barbers, shepherds and exorcists, stood through many centuries vainly begging admission to the temples of Aesculapius. Ancient and medieval physicians mentioned and sometimes described rather perfunctorily mania, melancholia, stupor, the so-called sacred disease and other major mental afflictions. But the medical historian interested in this particular phase of the evolution of healing will turn more profitably to the writings of herbalists, alchemists and theologians. The misunderstood and misjudged patients were mostly exposed to contempt, ridicule, dread and all kinds of torture. Progress of a sort was made when those that were not burned as witches or baited as village fools were segregated and herded together in unsanitary, foul-smelling dungeons. Gradual improvements of custodian care, culminating in the humanitarian efforts of Pinel in France, Tuke in England, Reil in Germany and Dorothea Dix in North America, bettered the lot of the insane in institutions.

Scientific study of mental illness did not make a legitimate entrance into medicine until the nineteenth century. Symptoms and combinations of symptoms began to be observed and recorded carefully. Attempts were made to separate and delineate various conditions, such as catatonia and hebephrenia. General paresis was discovered. The looseness of the concept of hysteria was broken down by clearer definition. Terminological confusion was still rampant and due largely to etiological obscurity, premature speculations about cerebral localization and a less than rudimentary knowledge of psychology. A growing urge for systematic organization was satisfied temporarily by the monumental and momentous work of Kraepelin, whose classification of mental disorders was generally accepted as the first solid foundation of modern psychiatry. Kraepelin's system was based on minute description of psychotic manifestations, prognostic empiricism and reduction of certain groups of phenomena to diagnostic condensations. The puzzling variety and multiplicity of abnormal behavior pictures seemed thus to be brought down to a limited number of supposed units and subunits, which were regarded as nosological disease entities and subentities having the same (unknown) origin, course and outcome. Medicine was then dominated by the triumphant conquests made by cellular pathology. Consequently these psychiatric disease units, notably dementia praecox and manic-depressive psychosis, were assumed to have some organic background not as yet ascertained and were not expected to yield to any other form of treatment than one that could successfully attack the responsible somatic disturbance. However, the hunt for intracranial, endocrine or other lesions and for metabolic and toxic disorders proved very disappointing. There seemed nothing left to do but sit back and wait patiently

for the day when finer methods of investigation would lift the veil from mysteries hitherto unsolved and insoluble. Meanwhile the time could be whiled away with ever more painstaking examinations and descriptions of the actions and utterances of patients, the deviations and fluctuations of their physiological functions and the gross and microscopic post-mortem findings. Considerable time and journal space were also spent on cataloguing symptoms and assigning them to this or that diagnostic category. Great ingenuity and sometimes hair-splitting finesse were employed in deciding whether a patient "belonged" to this or that or neither disease. Psychiatric curiosity having thus reached its saturation point, the patient was then sent back to the hospital ward, and nature was allowed to take its course. There was hardly anything constructive and therapeutically valuable in this sort of impersonal, nosographic, codifying, static-descriptive psychiatry. The disease was more interesting to the psychiatrists than the man or woman whom they labeled as having a certain type of disease. It mattered little to them what kind of a person the patient had been before his illness, how he had developed, how he had gotten along with other people, what had been his outlook on life and his way of living, how he had been prepared for life, what successes he had achieved, which of his ambitions had been satisfied or frustrated, and whether there were any remaining assets that could be used in trying to help him out of his psychotic tangle. The hope for a future understanding of the disease undermined all desire for a present understanding of the person.

Psychiatry at that time shared its impersonal attitude with all other sciences purported to deal with human beings. Medicine studied and treated organs and organ systems; physicians, hardly conscious of the feeling, thinking, hoping, fearing, loving, hating fellow man before them, conversed with his body only through the medium of stethoscope, percussion hammer, test tube and microscope. For what little interest they had in their patients' personalities, they might as well have been veterinarians. A patient was nothing more than a sick heart, lung or kidney or a fractured rib lying between two bed sheets. The chemical reactions of the urine loomed in importance; the human reactions of the person seemed negligible and were neglected. Jurisprudence judged criminal deeds regardless of the doers. The law, made by man for man, considered everything but man. Anthropologists were intrigued by Darwinian tubercles and the dimensions of scapulae in different races but not in the behavior of people; they measured the earlobes and frontal bone prominences of soldiers, criminals, prostitutes, Caucasians and Mongols but did not care a penny's worth about the persons whom they measured. Ethnologists brought with them from their travels large assortments of customs and manners, folktales and folksongs; they cared nothing about the everyday lives, opinions, feelings, and interpersonal relationships of the members of the tribes whom they visited. Educators proceeded as if a class of forty or fifty pupils were made up of strictly homogeneous material and the individual children did not differ in their endowments, abilities, interests, emotional responsiveness and domestic situations. The class curriculum served as a Procrustean bed to which every pupil must fit perforce. Psychologists were mostly philosophers specializing in theoretical and speculative preoccupations with abstract souls and abstract minds. Kraepelin himself had received his psychological orientation by working with Wundt, the founder of the school of experimental psychology, which replaced academic armchair dialectics with objective investigation yet still remained impersonal

in dealing with human beings. In short, all these sciences, including psychiatry, occupied themselves with the human species and smaller or larger sections thereof but not with the individual members of the species.

The danger of psychiatric stagnation in static nosography was averted at the end of the nineteenth century. Revolt came from several quarters, but with the greatest eloquence and insistence it came from Sigmund Freud in Vienna. Freud, influenced by Charcot and Bernheim, introduced into psychiatry dynamic principles and the consideration of the individual. In working with hysterical patients, he came upon the realization that the abnormal functions did not suddenly and mysteriously arise from nowhere but were the reactions of certain people to certain situations, some of which may go back to life experiences in the past. Psychiatrists began to think in terms of meanings. What meaning does an obsession, a compulsion, an hysterical paralysis or attack of blindness have in the case of the particular individual, the patient, who has come for help? What does the symptom signify to him? What purpose does it serve in his particular mode of living, thinking and feeling? Freud found that in some of his patients sex experiences of an unpleasant nature played a leading part in the development of their difficulties. Thus his attention was directed towards a phase of human life that had until then been shunned and treated as if it did not exist by the majority of psychiatrists. Freud, in addition to humanizing and individualizing psychiatry, also deserves high credit for removing fig leaf prudishness from the study of human behavior. But the discovery that sex trauma and unhealthy sexual adjustment may well lead or contribute to difficulties in general adjustment resulted soon in an overestimation of the sex factor. Freud and his school built up a huge system according to which all behavior of man, normal or abnormal, from the first day of existence and even in intrauterine pre-existence, was dominated and motivated by sex. Man was split up into an hypothetical trinity of superego, ego and libido, which together acted as dramatis personae in a mysterious thicket of the mind, called the Unconscious. What had started out as interest in individual patients quickly became schematized and brought into a dogmatic system. Concepts, such as the unconscious, foreconscious and conscious, the superego, ego and libido, which might have been usable as figures of speech, became anthropomorphized and personified. The passage through the birth canal no longer was merely a physiological obstetrical procedure but was supposed to live on in the unconscious as a psychological event that could influence behavior much later in life. The fact that an infant at first is interested in no one but himself was interpreted as a feast in erotic egocentricity. The child was assumed to go through various stages of erotic development which fatalistically determined his whole future. Autoerotism was said to be followed by organ erotism, this by bisexuality, then comes the Oedipus situation when the boy is in love with his mother and hates his father to the point of wishing him dead (all in the uncontrollable and inaccessible unconscious), until finally heterosexual adjustment is reached. This, in a nutshell, was the beginning of the psychoanalytic school. Many other theories were added. A certain technique was elaborated which could be acquired only by going through a long and ceremonious process of initiation. Dreams, slips of the tongue and so-called free associations were subjected to one-sided interpretations and deemed more important than the everyday actions, interpersonal relationships and actual happenings in the life of the patient. Psychoanalysis, posing as a science, became a creed, the essentials of which were to be accepted in full faith as the exclusive salvation.

At the beginning of this century, psychiatry was treated to a number of systems which claimed exclusive salvation. Alfred Adler, seceding from orthodox psychoanalysis, proclaimed that all and every behavior disorder was rooted in a feeling of inferiority and insecurity and in a will to power. The wave of focal infection had its psychiatric apostle in Cotton, who seriously advocated the removal of infected teeth, tonsils, appendices and gall bladders as sure cures of mental affections. Pavlov's conditioned reflex theory and its offspring, the behaviorism of Watson, and the eidetic imagery system of the Jaensch brothers, now busily engaged in justifying the mass psychosis of the German Nazi movement, also made vigorous efforts to usurp psychiatry. Others worshipped solemnly at the altar of the endocrines which were elevated to the rank of all-momentous personality-regulating glands of destiny.

Unperturbed by this disharmony of claims, mutual denunciations, vociferous propaganda, prematurely popularized phraseologies and terminologies, and the general confusion resulting therefrom, a number of sober psychiatrists, steering clear of fanciful intoxication, went calmly about the business of creating a solid basis of factual knowledge. They were fortunate in finding a great leader in Adolf Meyer, to whom psychiatry, and especially American psychiatry, owes its present role as a legitimate and equal member of the group of medical specialties. Having made contributions to comparative anatomy, pathology and neurology, he brought with him a respect for objectivity, concreteness and logical thinking. Recognizing the need of freeing the concept of mind from unwarranted and certainly unscientific mysticism, his biological orientation did not allow him to condone any of the speculative would-be solutions of the "body-mind problem", about which there was much controversy among the philosophers and psychologists of the day. A specialty that professes to deal with affections of the mind, ought to be able to formulate clearly the material with which it deals. What is mind? What are mental disorders? Academic idealism thought of man as a sort of bipartition into body and soul or tripartition into body, soul and mind. Academic materialism thought of mind as a sort of emanation from the cells of the brain. There were compromisers who spoke of a psychophysical parallelism with a bodily and a mental aspect. A physician certainly cannot work with a detached soul, brain cells and their emanations or an aspect, whatever that may mean. Was "mind" then something foreign to the realm of medicine? Meyer settled this question in favor of medicine, by pointing out that "mind" is not an elusive philosophical abstraction but the sum total of behavior, of the whole functions, of the human individual. This behavior is both overt, expressed in gestures, actions and utterances, and implicit, present in the form of perception, cognition, conation, thinking, and feeling. The physiologist, clinician and pathologist study mainly the organic part-functions and part-dysfunctions of the human body; the psychobiologist and psychiatrist study the whole-functions and whole-dysfunctions of the mentally integrated individual, the person. Modern psychiatry is that specialty of medicine which, over and above a preparation for the knowledge of the facts concerning the pathology of organs and organ systems, occupies itself with the facts concerning the pathology of the person, that is unwholesome whole-functioning, behavior or performance.

This type of psychiatry has no need of playing with fanciful theories. By its very nature and definition, it is interested in demonstrable facts only, as is indeed every other branch of medicine. The first effect, of immense

practical as well as theoretical significance, consists in the removal from medical thinking of the former unnecessary and barrier-raising contrast between organic and functional phenomena. The question no longer is: Do we deal here with an organic or functional condition? The question is: What is bothering the patient, and what can we do to help him? In the mentally integrated individual, there may be a disturbance of part-functioning which may call for drug prescription, physiotherapy or surgery, and there may be a disturbance of whole-functioning that calls for therapeutic work with the patient himself. Instead of an artificial division into organic only and functional only or physical only and mental only, there is more realistic convergence of effort on the patient as an undivided and indivisible individual, or what people nowadays like to refer to as the "person as a whole". You cannot, in a case of typhoid delirium, separate the physical and the mental condition but must treat the patient's infection and protect him from injury that might result from his delirious behavior, and you must have learned how to do both of these things efficiently. You cannot, in a case of habitual psychogenic constipation, forget that, while you treat the underlying personality difficulty, the patient's bowels need attention. Otherwise, the patient would be tossed about like a ball between the internist and the psychiatrist.

Medicine has learned that the human body is exposed to environmental influences which decisively regulate and affect its well-being. Many ailments arise from outside mechanical, chemical, nutritional, bacterial and climatic insults. The person depends even to a much larger and far more complex extent on a give-and-take interaction with his environment, with his family, his employers and co-workers, his friends and neighbors, with the general cultural pattern that directs his standards, activities and ambitions. Just as the knowledge of the importance of external agents is essential for the understanding of the physiology and pathology of the body, so the knowledge of the facts concerning interpersonal relationships is indispensable for the understanding of the normal and pathological behavior of the person. Medicine has also learned that outside agents do not have the same effect on all people who are exposed to them. Susceptibilities differ individually, depending on inherent characteristics of which we speak as constitution, and previous events in the life of an individual creating various degrees of either sensitiveness or immunity. Again in a similar yet much more complex manner people do not react equally to the life-shaping situational factors. Every person is a unique and unduplicated psychobiological and sociobiological unit with a constitutional inheritance and endowment of his own, with a unique biographical background and a unique life situation, to which he reacts in his own, unique way.

Modern psychiatry is prepared to study and treat the personality difficulties of people. It differs greatly from old-time textbook psychiatry in that it does not wait for extremes and end-products of mental aberration when the disorder has assumed sweeping proportions. Psychiatry has stepped out of the wards and corridors of mental hospitals designed largely for human wrecks and has undertaken the more hopeful and helpful task of dealing with people in any type and at any stage of distress. Old-time psychiatry was in a sense comparable to gastroenterology that would limit itself to carcinoma and gastric ulcer and disdain the ordinary and less startling affections of the digestive tract, or to ophthalmology that would not be interested in anything but blindness. The psychiatrist of today has learned to make himself

responsible for any kind of difficulty in which the personality is involved. It does not matter whether the complaint has risen out of physical illness, innate inadequacies of constitutional endowment, disturbing situational stress, or a combination of these factors. The psychiatrist starts with the here and now of the complaint, studies the facts about the patient's personality make-up, biography, physical condition, intelligence, emotional reactions, habit formations, relations to the people of his environment, balance of liabilities and assets and the interplay of factors, which have made for the development of the disorder and may furnish a clue for its improvement. The onset of the difficulty and the things resulting in its maintenance and aggravation are investigated carefully and brought into clear relationship to the patient's position in life. Thus the former static and sterile attitude has been replaced by a factual genetic-dynamic curiosity which tries to explain, understand and make constructive use of the material obtained. Out of the knowledge of the person, his reactions and the situation reacted to, comes the physician's reformulation of the complaint on the basis of concrete facts, which are as objective and reliable as are the insights gained in cases of physical illness from the examination with auscultation, percussion, laboratory tests and roentgenograms. This reformulation, the diagnosis, already contains the nucleus for a therapeutic plan. Diagnosing, according to its etymological connotations, means knowing something well enough to be able to tell it apart from other things. Modern psychiatric diagnosis aims at just such a knowledge. It no longer consists of generalized, schematic, terminological snapshots and short cuts. It no longer depends on slippery condensations, such as neuropathy, psychopathy, neurosis, and any number of verbal alibis, but is determined on sizing up palpably and unmistakably the patient and the nature of his particular difficulty. Under these circumstances, a remarkable change has taken place in psychiatry. At a time when classification and labeling was the principal preoccupation, the diagnosis marked the culmination and termination of investigative curiosity. The patient, believed to be possessed of an obscure malady, was put into a pigeon hole; he or rather his disease was called a name, and the labelers called it a day and were satisfied with themselves. Today the diagnosis marks not the end but the beginning of the psychiatrist's work with the patient. At the moment when an understanding of his condition is reached the question arises: The patient being the type of person we have learned him to be, his trouble being what we have learned it to be, the situation being what we have come to understand it to be, what can we do in order to contribute towards an amelioration of the difficulty? There is nothing in this formulation reminiscent of Pollyannish optimism that has donned rose-colored spectacles. There is nothing in it that is reminiscent of shoulder-shrugging defeatism that gives up before trying. There is nothing in it suggestive of quixotic windmill storming with the fantastic tools of unproven hypotheses. It is true that psychiatric examination and psychiatric treatment had to develop its own methods and tools. Anatomy, physiology, and pathology, all work with different methods and tools, being at liberty to use the information made available by its own and the other disciplines. Equally psychiatry feels at liberty and under obligation to make use of the experience gained by the other branches of medicine, at the same time developing its own special, similarly objective modes of working.

Even though it has by now become clear that the uniqueness of the person cannot be sacrificed to any theoretical attempt at over-simplification, ex-

perience shows that there are types of human reactions similar enough to allow them to be grouped together. These groupings are no longer considered as tight diagnostic strait-jackets with exactly the same etiology, course, prognosis and treatment; but the scientist's need for orientative organization makes it advisable to point out resemblances and differences. Thus we come upon a group of reactions which go with a demonstrable impairment of cerebral structure and manifest themselves in the form of a loss of certain types of performance, notably a dropping out of memory and judgment. This is the case in the cerebrogenic organic psychoses associated with brain tumor, brain abscess, meningitis, encephalitis, general paresis, mongolism and tuberous sclerosis. Meyer refers to these conditions as anergasic reaction sets. There is another group of whole-dysfunctions which accompany temporary disturbance of metabolic support, often go with cerebral oedema and are characterized mainly by more or less disturbance of consciousness and by various degrees of confusion. These are the dysergasic reaction sets. The parergasic group is essentially one in which withdrawal from the reality of life and autistic fancy-born thinking are the outstanding phenomena. In the thymergasic group, the disturbance lies chiefly in the field of excessively hilarious or excessively depressed emotional states. The oligergasic set of reactions is remarkable for an inherent lack of intellectual equipment as in cases of feeblemindedness and hypothyroidism. In the remaining large group of reaction types the personality deficits or distortions are far less sweeping. They comprise hysterical phenomena, obsessions, compulsions, hypochondriacal invalid conditions, anxiety states and the conditions of nervous tension for which Beard has coined the name of neurasthenia. Thus, without having to bind oneself too rigidly to a concept of mental disease, the urge for a systematic grouping can be satisfied and at the same time justice can be done to all sorts of possible combinations, fluctuations and variations.

The outstanding contribution of modern psychiatry, however, in addition to the above mentioned changes of outlook and attitude, lies in the fact that it does not start from the abnormal extremes but rather, more in accordance with everyday life, from the common daily problems of normal people. This is a most significant kind of departure because it invites definitely the interest and participation of the not psychiatrically specialized medical profession. Physicians in everyday practice were not and are hardly expected to be concerned with people whose complete collapses have assigned them to the wards of psychiatric hospitals. But they are called upon almost daily to treat people with so-called minor disorders whose disturbed whole-functioning makes itself felt through psychogenic headaches, stomachaches, nausea and vomiting, itching sensations and the considerable assortment of hypochondriacal complaints. The psychiatrically uninformed physician gropingly reaches for the prescription pad and, following the mood of the moment or a habit inclination, prescribes tonics, sedatives, blood-builders or appetizers, sends the mountain dweller to the seashore and the seashore dweller to the mountains, advises changes of scenery, turns on his ultra-violet lamp and, when the patient has left the office, exclaims with a sigh of relief mixed with impatience: "Oh, what a nuisance! I wish I knew how to get rid of him." The psychiatrically informed physician has learned to listen patiently and understandingly to the offered complaint, is inquisitive about the why and whence of the complaint and is able to give concrete and helpful advice. It was in North America that the previously forgotten man of psychiatry, that is, the non-psychotic

and non-institutional man in the street, had first received the attention which he deserves. In 1908, Clifford Beers, an energetic Yale graduate, emerging from a psychotic episode, felt the urge to better the lot of the mentally ill. Starting out at first on a program that was centered around mental hospitals, he was soon directed by Adolf Meyer to devote his organizing talent to an effort aiming towards prevention. Country-wide plans of public hygiene were then well under way. Was there something that could be done in the direction of preventing major psychiatric calamities? The Connecticut Society for Mental Hygiene and afterwards the National Committee for Mental Hygiene, with branches both in the United States and in Canada, embarked upon the enterprise of arousing public opinion with an effort to prevent insanity and delinquency. After a somewhat vociferous propaganda had subsided, after laudable though empty enthusiasm without content had made way for practical work, mental hygiene clinics were founded in strategic places of the country, with the avowed aim of making psychiatric advice accessible to anyone who felt the need of it. These clinics established close contacts with the social service agencies of the community in which they were located. They worked together with psychologists and educators, but unfortunately physicians were somehow left out in the cold. Perhaps this omission was not altogether negligence on the part of the mental hygiene clinics. The majority of physicians were not quite ready to cooperate in matters of which at that time they knew little and about which they cared even less. It should not be forgotten that even now many physicians have had little or no training in psychiatry during their years in medical school, beyond perhaps a visit or two to hospitals for the mentally ill where they shuddered at the sight of deteriorated schizophrenics. It did not then occur to the physician that psychiatry had graduated from the mental hospitals and that they themselves could learn a great deal from psychiatrists about the handling of their own patients and could contribute a lion's share to their mental well-being. To the mental hygiene clinics were added psychiatric out-patient departments in large hospitals, and the patients neglected by their physicians, the so-called neurotics, flocked to those places and received for the first time the intelligent and informed attention they needed and from which they derived substantial benefit. People who somehow could not get along in their jobs, children who somehow could not get along at school, people responding to thwarted ambitions with hypochondriacal body protests, plagued with seemingly inexplicable fears, given to outbursts of temper, caught in obsessive-ruminative entanglements, slumping in the face of what to them seemed to be insurmountable obstacles, shop-lifting women who did not know why they stole, frigid women chafing under their husbands' sexual demands, all these people poured in an unending stream from their uncomprehending physicians to the more understanding and more helpful psychiatric clinics. It was then that the medical men sat up and took notice and said to themselves, "What are the things that those people do and that we have failed to do ourselves?" That is how the practicing physicians became psychiatry-conscious.

In fact, psychiatry is now well prepared to give to physicians the information and skill necessary for the treatment of the everyday problems of the everyday person. It is well to note that the real and formidable deterrents which for a long time kept the physicians from having faith in psychiatry are gradually disappearing. Undoubtedly criticism and perhaps even irony

were deserved so long as there existed among psychiatrists a bewildering confusion of theory and authority. Even if a physician wanted to adopt psychiatric methods, he thought himself confronted with the necessity of choosing between any of a number of brands, each of which shouted from the roof tops that it, and it alone, pointed the way to a psychiatric millennium. The present day trend in psychiatry is to disregard these shouts and proceed not only on an objective and self-critical but also on a pluralistic basis. Willing to accept any factual contribution from any source, the modern psychiatrist has the same disdain for exclusive salvationism as has any other physician. His knowledge of life, of man and of medicine does not allow him to join those who go about the land proclaiming the infallibility of a particular "approach" or to accept uncritically the supposed omnivalence of a sex-ridden unconscious or of endocrine medication. There has been much talk and much more writing about psychiatric "approaches". The idea was that you must approach the patient with a certain prearranged set of tools regardless of who the patient was, what he came with and what he came for. In reality the psychiatrist does not approach the patient but the patient approaches the psychiatrist or the psychiatrically intelligent physician. The patient comes with a problem which in this case is not conjunctivitis or a scarlet rash but one involving deeply his mode of living and reacting. The psychiatrist, unencumbered by theoretical prejudices, studies the multiplicity of facts and factors which enter into this patient's particular situation and treats the patient accordingly. He does not think in terms of absolute cure or absolute failure, but knows that we are living in a world of relativity in which helpful combinations of circumstances are often intermingled with impeding obstacles. He can sometimes eliminate the whole trouble with all its roots, he can often mend and patch, and he can always work for mitigation, attenuation, betterment, relief. More than that, seeing difficulties at their onset, he has accepted the new challenge of psychiatric prophylaxis by preventing his patients in time from getting stalled in ruts of unwholesome habits of thinking, feeling and acting, by giving them opportunities to express and understand themselves, by steering them into healthier ambitions, occupations and relations.

Modern psychiatry has entered not only the field of medicine but, fortified by recent advances in psychology, has also made its contributions to education and criminology. Mental hygiene has added the consideration of individual teachers and students to that of curricula and examination grades in elementary and secondary schools and in colleges. The educational system is gradually changing to make instruction fit the pupil instead of trying forcibly to achieve the impossible feat of making all heads fit one size of hat. Many occupational misfits would have become useful members of society if early recognition of their particular abilities and limitations had resulted in appropriate personal and vocational guidance. Many a truant has been made to attend school enthusiastically by the correction of grade misplacement. Many a daydreaming youngster has been brought back to earth by giving him work within the range of his interest and comprehension. Many an adolescent has been saved from dangerous preoccupations derived from masturbatory fancies and dreads by judicious guidance at the crossroads between mental health and potentialities for ominous developments. The courts are also slowly, very slowly beginning to acquire psychiatric intelligence. The unsavory spectacle of psychiatrists hired by prosecutor and defense contradicting each other is gradually giving way to an effort to size up the facts about the patient

and the situation. Judges are learning slowly, very slowly to perceive human factors and consider not only a case but the lives of people involved in the case. Cold-blooded and impersonal retaliation is gradually being pushed aside to make room for the rehabilitation of unfortunate and mentally unhealthy individuals.

Let it be understood that psychiatry has no bedfellowship with hazy sentimentalists, impractical zealots or goody-goody sobsisters. It stands on the firm soil of life's realities and is aware of the imperfections inherent in the species and in our human institutions. It is, moreover, fully aware of its own imperfections. It does not for a second propose to play God and transform personalities. He who expects some miraculous tricks of psychiatry will go home disillusioned. It has no tricks and does not work magic. Psychiatrists are physicians, pure and simple, who profess to treat human ailments, the ailments of humans, to the best of their abilities. No physician claims that he can attain the unattainable, bend that which is brittle or hammer that which is not malleable. But he can and must study soberly, objectively and concretely the complaints of those intrusted to his care and treat them with the skill derived from information, experience, sympathetic understanding and conscientiousness. This psychiatry, as a medical specialty, is now equipped to do. As any other branch of medicine, it has much more to learn than it knows today. But it has established a solid basis of factual knowledge from which it can venture securely to ever new and untried fields in a scientific effort to relieve the sufferings of man.

The Recognition and Management of Appendicitis

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THE mortality of acute appendicitis in many places is still between 5% and 7%. Such a mortality rate in what is considered a well understood disease is too high and is certainly an adequate reason for further discussion of the problem. It has been my feeling that a certain complaisance has developed regarding acute appendicitis and its mortality. Both doctors and lay people have in some communities come to consider this disease as a very familiar one in which there were certain routine measures of treatment to be used and in which inevitably there were a definite number of fatal cases. This attitude must be changed to one of quickened interest and increased study by all of us until the mortality from appendicitis reaches zero. It is with the hope of stimulating this interest that I have chosen acute appendicitis —the commonest surgical lesion of the abdomen—for discussion today.

To understand the clinical findings in acute appendicitis we must have a clear picture of the pathological process that is producing the symptoms. In general there are but two methods by which appendicitis may develop. In one, the process is the result of an inflammation which arises in the wall or mesentery of the appendix and in the other the pathology arises from a mechanical obstruction to the lumen of the organ with resulting gangrene. It is at once apparent that the symptoms in inflammatory appendicitis will differ from those in obstructive appendicitis just as their pathology differs.

Inflammatory appendicitis, as the name implies, begins as an acute inflammation in the wall of the appendix. No doubt the infection is blood borne in many cases which may account for the larger number of inflammations of the appendix in communities when respiratory infections are prevalent. As the infection in the appendiceal wall develops the peritoneal coats become inflamed. This attracts the omentum to the area and in a few hours the general peritoneal cavity is protected from the infection by this omentum. The inflammation continuing, an abscess slowly forms which may or may not communicate with the lumen of the appendix. We may note, however, that the development of the pathology in this type of appendicitis is slow and that there is adequate time for the defense mechanism to protect the general abdominal cavity and to localize the infection in one area. It is because of these facts that the mortality in this inflammatory type of appendicitis is very low. This is the benign type of appendicitis.

The clinical picture of inflammatory appendicitis may be readily interpreted. The patient frequently starts his illness by feeling ill—having a sense of general malaise—because of the onset of an acute infection. Epigastric distress located just above the umbilicus is an early complaint. As the inflammation in the appendix advances to cause peritoneal irritation, pain in the abdomen slowly develops. Nausea and vomiting may occur some hours after the onset of the illness. The pain now becomes more severe and

very commonly is referred to the umbilicus or the midline of the abdomen. Examination at this time reveals tenderness in the R.L.Q. with muscle spasm. The temperature will be elevated one half or one degree and the white blood count will be elevated to 12,000 or more. If operation is not undertaken at this time the inflammation continues, and an abscess localizes in the area in which the inflamed organ lies. This, of course, is most commonly lateral to the cecum but it may be mesial to the cecum or in the true pelvis.

Summarizing the inflammatory type of appendicitis then, we find that:

1. The basis of the disease is a slowly developing inflammation in the appendix.

2. The symptoms develop as the inflammation spreads and arise in the order of pain, nausea, vomiting and fever.

3. The inflammation becomes localized in most cases and fatal peritonitis rarely develops.

The obstructive type of appendicitis differs so markedly from the inflammatory type that at times it appears to be a totally different disease. Here mechanical obstruction to the lumen of the appendix is the basic factor and the resulting pathology develops from this. The appendix is a blind loop; its walls contain mucus secreting glands; and its lumen contains feces with a high bacterial content. When the lumen of the appendix is suddenly obstructed by a fecolith or by a kink or a band, peristaltic waves arise which attempt to overcome the obstruction. These contractions produce severe peristaltic pain. As the obstruction continues the lumen of the appendix beyond the obstruction becomes distended from increased secretion from the appendiceal lining and from the products of bacterial activity in the closed loop. The distention of the closed loop increases and obstructs the veins in the wall of the appendix so that edema develops. Finally the distention of the appendix is so great that the blood supply is entirely shut off and gangrene occurs. This may involve all of the appendix distal to the obstruction or it may be localized in the area of greatest pressure over the obstructing fecolith. It is noteworthy that until now there has been no peritoneal *inflammation* and therefore the omentum has not been attracted to the area and has not adhered to the appendix. With the development of gangrene of the appendix, the pain ceases. Soon, however, with increasing distention of the lumen, rupture of the gangrenous wall occurs and the highly infected liquid contents of the cecum pour freely into the open peritoneal cavity. This entire process, in my experience, can occur in as few as four hours and frequently occurs within twenty-four hours of the first pain.

The symptomatology of obstructive appendicitis is diagnostic if one is familiar with the pathological picture just described. Unfortunately, however, there are intervals of freedom of pain in many cases which may lure us into a delay in operating unless we are familiar with the probable pathology that is present.

The onset of obstructive appendicitis is sudden and it is marked by *pain*. Usually the pain is very severe and comes in frequent peristaltic waves. It often is so severe that it doubles the patient up and is not localized in any one area of the abdomen. If the obstruction in the appendix persists until gangrene occurs, the pain persists until gangrene occurs and *then it stops*. This is an ominous time because when the pain next returns it is the pain of peritonitis from rupture of the appendix.

If the appendiceal obstruction is temporarily or partially relieved the pain ceases for a time but returns later as the lumen of the gut is again occluded. Vomiting may follow the pain and occasionally is persistent. Neither diarrhoea nor constipation are features of the symptomatology.

Examination in these cases may reveal very little more than tenderness in the R.L.Q. In the early stages this is not severe and there is no muscle spasm until the process develops to the point of causing peritoneal irritation. There is rarely any fever. The white blood count, however, is elevated to 12,000 or more early in the disease and this finding is very important and very constant.

Summarizing obstructive appendicitis we may say that:

1. This is the dangerous malignant type of appendicitis in which most fatalities occur.

2. It is dependent on gangrene and perforation of the appendix caused by an obstruction to its lumen.

3. Its symptoms are primarily pain with relatively slight physical signs in the early stages.

It is unfortunately true that even when familiar with inflammatory and obstructive appendicitis there will be bizarre and unusual situations in which the presence of appendicitis will not readily be recognized and immediate operation will not be done. In the first place either of these types of appendicitis may arise in an appendix which is lying deeply in the true pelvis. The pathological process will be the same, the symptoms will be the same but the pelvis. The pathological process will be the same, the symptoms will be the same but the physical findings will be either entirely negative or very indeterminate. Obviously if the appendix lies in the pelvis behind and below the uterus or bladder it will be so far removed from the anterior abdominal wall that local irritation and tenderness will be absent. The answer, however, is readily obtained by doing a rectal examination. An inflamed appendix lying in the pelvis can be felt and will be sharply tender. This will settle the diagnosis and establish the need of operation.

The second common cause for delay in operating on acute appendicitis is a very definite and common tendency amongst all of us to "watch the patient" when we are not fully satisfied as to the diagnosis. When we say we are going to "watch" a case or "wait on it" we must decide what we are watching and waiting for. Is it peritonitis? Is it the appearance of fever which implies a spreading infection? Is it fear of compromising ourselves by a course of honest action and possibly the removal of a normal appendix?

When a patient has a *severe* abdominal pain with even slight tenderness in the abdomen or rectum and an elevated white count, I favor action rather than delay. We can rule out kidney and ureteral stones by proper diagnostic measures. This being done, appendectomy should be advised. I would rather have it said that I occasionally removed a normal appendix than that I frequently delayed operation and lost patients with peritonitis.

It is obvious from our consideration of the pathology of appendicitis why cathartics are so dangerous in acute abdominal pain. It has been repeatedly said that in appendicitis "purgation brings perforation". The increased peristalsis following catharsis may well be just enough to push a fecolith through the soft gangrenous, obstructed appendix and cause a rapidly spreading peritonitis.

Occasionally we all see cases of appendicitis with diffuse or generalized peritonitis. Here, I believe, better results will be obtained by the use of the Murphy-Ochsner treatment than by immediate operation. I refer to the patient who usually has been sick several days, who has a high fever, rapid pulse, sunken eyes, distended, tense abdomen with absent peristaltic tinkles. This patient should be put to bed in a high sitting position with a constant suction apparatus applied to an indwelling Levine stomach tube. Morphia should be given frequently and in sufficient doses to keep him completely quiet. Adequate fluid intake of 2,000 to 4,000 c.c. per day can best be given by a constant venoclysis.

By this treatment the spreading peritonitis will often become localized. The temperature falls from a constant high level and becomes "picket fence" in type if the peritonitis becomes a localized abscess. The pulse rate is probably the best prognostic evidence that we have in these cases. A falling pulse indicates a localizing of the process somewhere in the peritoneal cavity.

Only when the abscess is localized should any surgery be attempted and then solely with the plan of draining the abscess.

The pouch of Douglas is the commonest place for collections of pus to form after an attack of appendicitis. Rectal examination is one of the first things to do in a postoperative appendicitis case that is running a daily fever. Frequent stools, rectal tenesmus and a tender, bulging, fluctuant tumor in the pouch of Douglas indicate a collection of pus in that area. Surgical drainage through the rectum is readily done but it is most important to wait for thorough localization of the abscess before incising it. This means a delay of several days after one is certain the abscess is present before incision is made.

Residual abscesses may occur in the lateral colic groove to the right of the cecum or mesial to it. No attempt should be made to open abscesses in these areas until one is completely certain of their exact location. They must be approached without going through the open peritoneal cavity. One can explore the abdomen for anything but pus. Pus in the peritoneal cavity must be localized and walled off before it is drained.

Occasionally following an appendiceal peritonitis, pus collects above the right lobe of the liver just below the diaphragm and forms a subphrenic abscess. These abscesses rarely cause any symptoms except persistent fever. They must be suspected to be diagnosed. They may, however, be readily diagnosed by taking X-ray plates of the upper abdomen and chest with the patient sitting up and lying down. When a subphrenic abscess is present the right diaphragm will be two or three inches higher than the left and will be immobile. An air bubble will be present in about half the cases. Compression of the lung above the diaphragm is generally demonstrable in the X-ray and in 50% of the cases serous fluid in appreciable amounts is seen in the pleural cavity above the abscess.

The diagnosis may be settled by making a needle puncture into the abscess. In obvious cases, however, we prefer to omit this puncture and at once remove a rib, wall off the pleural cavity and explore the subphrenic space. The operation may be done in one or two stages depending on whether or not the pleural cavity is opened. The great complication of this operation is empyema which must be avoided by avoiding the pleural cavity in the drainage procedures.

Obstruction to the small gut is a relatively common complication in the postoperative course of appendiceal peritonitis cases. This may arise from

the kinking of the ileum about a drain wrongly placed mesial to the cecum. It may come from adherence of a piece of ileum to the wall of a pelvic abscess.

The symptoms of small intestine obstruction are usually typical. They are audible peristaltic rumblings (borborygmi), colicky pains, distention and vomiting. The diagnosis can usually be settled by a flat plate of the abdomen which shows ladder-like coils of dilated gut with fluid levels in them.

Treatment of postoperative obstruction should consist first of the use of the Wangensteen suction drainage of the stomach and duodenum. This will frequently decompress the ileum, relieve the distention and release the obstruction. Adequate parenteral fluid intake must be maintained while this suction drainage is going on. Failure to obtain relief by this method makes it necessary to operate for the release of the obstruction. At this time the obstruction is relieved and an enterostomy tube inserted in distended bowel above the obstruction.

It is our experience that the mortality of appendicitis can be reduced when physicians understand the pathology of obstructive appendicitis. With this picture in mind they will insist on early operation before serious symptoms develop; they will adopt a policy of action rather than of delay. Most fatalities in acute appendicitis occur in the patients having obstructive lesions in the appendix and these fatalities are in large part preventable by recognition of the pathology and immediate operation.

*Hospital Standardization in Canada

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WHEN the late Dr. Franklin Martin founded the American College of Surgeons in 1913 and the Standardization of hospitals in 1918, he performed two of the greatest humanitarian acts ever accomplished on this continent.

In Canada when the first survey was made in 1918, there were just six hospitals which met the requirements of the minimum standard; today there are 323 or an increase of 5,000%.

Never before have hospitals possessed the quality and quantity of scientific care for the sick that they do today.

The survey of hospitals is made by experts and any hospital that does not come up to the minimum standard is rejected.

These surveys are made at the expense of the American College of Surgeons.

There was a time that a large number of hospitals were glorified alms-houses—the governing bodies felt that all that was required of them was to supply food and bed. Today these governing bodies realize that they have greater responsibilities. They have to see that the staff appointments are men who have graduated from recognized medical schools, ethical and competent.

Fee-splitting is absolutely condemned by the American College of Surgeons and the hospital is removed from the list if any surgeon on the staff is found guilty.

Before an applicant is allowed by appointment to have the privileges of the General Hospital in Saint John, he has to present his credentials to the Credentials Committee. This Committee is made up of the senior surgeon, the senior physician, two members of the hospital commission and the superintendent. If he has all the necessary qualifications his name is passed on to the hospital board and he is appointed.

The medical staff is well organized and made up of ethical competent doctors. At the monthly meetings of the staff all deaths, unimproved cases, complications, etc. are gone into and thoroughly discussed. By this means any inefficiencies are brought out and corrected.

These staff meetings have been a vital factor in eliminating unnecessary surgical operations, in stamping out irregular medical practice, and in ensuring careful laboratory and physical examinations before proceeding with treatment.

These monthly meetings of men that have the privileges of the hospital have a social aspect that does good. There are always some men who like controversy, and sometimes the arguments get quite warm, and from an educational standpoint do good and do not interfere with the "esprit-de-corps" that exists in Saint John and which is not surpassed in any city in Canada.

There is another great advantage from these meetings. It instils in the

* Paper read at the sectional meeting of the American College of Surgeons, Hospital Conference, Halifax, N. S., May 20th 1937.

younger members of the profession the idea of keeping abreast of the times and to do this they are taking post-graduate courses in the big centres.

These monthly staff conferences are really a form of post-graduate work.

I do not think that the Canadian doctors are taking the interest in the American College of Surgeons that they should. I have heard it said that it is a United States institution, which it is not. The American College of Surgeons is an international body and is just as much Canadian as United States. The name was sugested by the late Dr. George Armstrong of Montreal.

Few men realize the enormous amount of work that the college does in the standardization of hospitals and the advancement of scientific surgery.

At 40 East Erie St., Chicago, where Drs. Bowman C. Crowell and Malcolm T. McEachern have their headquarters (both Canadians, by the way), there is a staff looking after the different departments which would be hard to duplicate. As a regent I had the opportunity of observing the efforts put forward by these men and their assistants, and it is truly surprising the amount of work that is accomplished each year.

They are prepared to assist any fellow of the college in any scientific work that he might wish to take up. They have all the facilities there necessary.

The fellowship of the American College of Surgeons is different from most surgical fellowships. To obtain this fellowship you must have the practical application of your theoretical knowledge, which is not always required in other fellowships.

With the 50 major cases at which you have assisted and the 50 major cases which you have performed yourself and the 100 case histories of these which you have completed, the examiners have a good idea of your practical application of your theoretical knowledge.

I believe that all men taking up surgery should become fellows of the college, and then they are fitted for a surgical appointment in any hospital.

"The object of the College shall be to elevate the standard of surgery, to establish a standard of competency and character for practitioners of surgery, to provide a method of granting Fellowships in the organization, and to educate the public and the profession to understand that the practice of surgery calls for special training and that the surgeon elected to Fellowship in this College has had such training and is properly qualified to practice surgery".

The membership of the American College of Surgeons is composed of surgeons who have proven that they are safe surgeons from the standpoint of the patient and that they wish to participate in a program for the elevation of standards of surgical and hospital practice such as that outlined in the By-Laws of the College as constituting its objects.

Some Possible Errors in Abdominal Diagnosis*

NORMAN H. GOSSE, M.D.,F.A.C.S., Halifax.

THE shortness of the notice of this meeting, effective only for a day or two has determined that my remarks today must be rambling in nature. I hope however that they may have some interest for you in the realm of abdominal diagnosis.

A few years ago I was called to see a young man who was a teacher in one of our academies. His complaint was indigestion. His appetite was not so good, there was distress after food and gas was troublesome. His abdomen was somewhat distended and he had to take laxatives. Temperature was 99 and pulse 94. He had been quite an athlete—a leader in the teaching and practice of sports at his school. He also kept in shape with regular running exercises, but since his gastro-intestinal system had gone back on him he had not had as good wind. Abdominal examination, beyond confirming his own statement regarding distention was essentially negative. Chest examination revealed one side flat from top to bottom and aspiration disclosed a space full of the usual straw colored fluid. There never had been any chest pain. His symptoms were entirely abdominal.

When the central portion of the diaphragm is involved in an acute pleuritic condition pain may be phrenic in type and referred to the shoulders; but when the peripheral parts are involved then the inter-costal nerves come into play and pain is frequently referred into the abdominal wall. As a result of this, when the right pleura is involved appendicitis with ascending peritonitis and other inflamed states have been diagnosed. While an increased respiratory rate and higher temperature may be present to indicate thoracic disease, sometimes it is not. What is said of pleurisy holds with equal force for pneumonia in which the associated pleuritis may produce the same effects. In doubtful cases if one would avoid error a masterful inactivity is often indicated. To have the removal of a normal appendix followed in a few hours by the typical signs of lobar pneumonia affords no credit to one's diagnostic acumen and a general anaesthetic contributes nothing to the well-being of such a patient.

In pulmonary tuberculosis, while we know that such cases may develop the usual type of appendicitis, yet in those cases, it is also recognized that abdominal symptoms may be present when no intra-abdominal condition exists. I have, at the moment on my service in the Victoria General Hospital, a young women sent in with a diagnosis of acute appendicitis. She had had attacks of right sided abdominal pain and had been nauseated from time to time; her temperature was slightly elevated, but we could find no supporting evidence that would justify our taking out her appendix. Further examination revealed tuberculosis involving both upper lobes and a fistula-in-ano. On the other hand, a patient sent from Halifax to the Nova Scotia Sanatorium, diagnosed by a very good man as pulmonary tuberculosis, and in whom a low grade

* Address in Surgery given at the Annual Meeting of the Valley Medical Society, May 27th, 1937.

continuous temperature and occasional slight abdominal distress was present, was eventually sent back to me for an appendectomy. Since her operation there has been neither elevation of temperature nor any symptoms of thoracic disease.

In *cardiac and vascular disease* we have conditions that appear with greatly increased frequency in the differential diagnosis of abdominal symptoms. Here I may be uttering a heresy when I suggest that one of them is arterial hypertension. I suggest it with the greater temerity because Dr. MacKenzie the Professor of Medicine of Dalhousie University is with us today, and because my own experience is not sufficiently great to justify important conclusions. I am wondering, however, how many of you find patients coming into your offices complaining of symptoms comparable to those of gall-bladder disease with perhaps a bit of headache or dizziness and in whom your examination discloses nothing but an arterial hypertension of considerable degree. I have seen a fair number of them in whom the abdominal symptoms were relieved with the lowering of pressure by 20 or 30 points. The series is not sufficiently large to enable one to make any dogmatic general statement but it offers opportunity for present speculation and a suggestion for future observation. After all, what is the cerebral pathology in the headache and dizziness of hypertension cases? And asking that question may we not parallel with it the question what is the hepatic pathology in those "biliary" symptoms of hypertension? Why are both so frequently simultaneously relieved by iodides and the usual regulation of such cases? The conclusions seem obvious enough. However I know that argument may well be made for the negative but I shall leave that for you to adduce.

Perhaps the most interesting of all the conditions in this realm is that of *coronary thrombosis*. This is the condition which has come to be known among us as the "doctor's disease", so frequently has it come to be the diagnosis in the sudden passing of so many of our profession. The difficulty of diagnosis in some of the manifestations of this condition is best illustrated by the story which one of the visiting American Surgeons told me last week, concerning one of his confreres. He was a prominent surgeon in one of the nearer American cities and known from one coast to the other. He was under treatment, perhaps I should say treated himself, for fourteen years for duodenal ulcer, but would never be x-rayed. He died a few months ago quite suddenly. At autopsy—which he himself had ordered—the heart showed evidence of a series of minor thrombotic attacks—infarcts of different ages—and a recent one which was the immediate cause of his death. There was no evidence whatsoever of duodenal or other peptic ulcer!

Some years ago, before the diagnosis of coronary thrombosis was made as frequently as it is today a man dropped dead quite near my office. I hurried over a moment before he expired. He had had very severe epigastric pain. He was now cyanosed and cold sweat stood upon his brow. He appeared to be in his early or middle fifties—a very florid plethoric individual. I gave my opinion that it was a cardiac death and left. Sometime after, his own family physician came on the scene—and following the good old custom of the uncivilized of his time characterized my diagnosis as crazy and affirmed that the death was due to acute indigestion. I have no doubt but that it is so recorded in our Provincial Registry. I had thought that, since that day, that diagnosis had passed out of our medical lexicon, until one night three weeks ago I ran into it again. I was busy and a confrere accepted a call to see a patient of

mine, a woman of 64. It appeared that before going to bed she had eaten an apple—and apples had never agreed with her. A couple of hours later she was suddenly seized with a very severe pain in the epigastrium which was followed by vomiting. This would not subside and some time later they decided to call the doctor. It was easy to accept the story of the apple as being the exciting factor, and when she was given solution of sod. bicarb. and the vomiting subsided her diagnosis of acute indigestion seemed to be substantiated.

An hour later the call came again with the story of very severe abdominal pain. I went and found that she was exceedingly restless, in a sort of shock—the blood pressure was quite low, there was cold clammy sweat on her forehead, with greyish white facies, and she was vomiting frothy stuff frequently. There was a history of her having been treated for hypertension years before and, I was told later that she had had such a bad attack on one occasion that several doctors in consultation had given her up. Abdominal examination between vomiting spells showed moderate tenderness in upper abdomen with some distention and some rigidity. The picture had some features of a severe gall bladder attack but I had never seen such restlessness Once a case of very severe acute pancreatic necrosis very nearly simulated this, but here the type of vomiting was different and the agony even more severe. It is easy to see how errors in diagnosis can be made, being led astray by the popular term but such a diagnosis in the presence of cardio-vascular disease beyond middle life must always be considered very critically. I at once gave her morphia gr. 1/3, which after a time relieved and quieted her. At 8 a.m., she was bright and cheerful though weak, and the pulse firmer. At 10 p. m. temperature was 100. Her pressure showed a further rise but even then was not high. The following morning at nine o'clock she wakened up from what appeared to be normal sleep and in a minute or two was dead—about 60 hours after the onset of the attack. Unfortunately no post-mortem was available so whether she died of a ruptured ventricle or an extension of the thrombosis must remain as further pabulum for our speculative appetites. Those that die are of course medical cases. Those that survive you may want to make surgical by raising the question of restoring their cardiac circulation by turning in and attaching to the heart a piece of the adjacent pectoral muscle.

The nervous system and abdominal symptoms: Some time ago, I saw a woman whose stomach was periodically giving her trouble as expressed in terms of gas, anorexia and vomiting, and this triad was associated with hemicrania. She had been treated for her migraine—emmenin by mouth at first and later ergotamine tartrate by the needle—but without effect. It had been observed that several days before the onset of the attacks her breath became foul. The husband could tell by this when an attack of migraine was imminent, and was sure there was a gastro-intentinal condition behind her migraine. He was tired of the diagnosis of migraine and wanted an investigation.

The question was, was this a case of duodenal stasis from some cause such as constriction by the root of the mesentery? Or what was it due to? X-Ray examination failed to show any evidence of obstruction—there was no delay in the passage of the barium meal through either stomach or duodenum, or indeed through any other part of the gastro-intestinal tract, but gastric analysis disclosed an achylia gastrica—practically no acid whatever being found in either of the seven specimens examined. She was supplied with acid, and so far, there has been no further migraine.

The converse of this is the case of a very nervous, thin, tall, narrow type of individual of 40 years and unmarried, who had frequently been diagnosed nervous indigestion in the preceding years. I saw her in one of her vomiting attacks which were irregularly periodic. X-ray investigation showed stasis in the duodenum with considerable distention of its first and second parts. A duodeno-jejunostomy was done with very happy results from the gastro-intestinal side and very considerable good from the general nervous side, though she still remains a tall, thin, slim nervous woman.

The abdominal pain of tabes doraslis is so classical, and fortunately is becoming so rare as to be scarcely worthy of mention. Perhaps equally classical but yet, sometimes more difficult of diagnosis is the colic of chronic lead poisoning. A confrere of mine on Sunday night last at the Halifax Infirmary was a bit disturbed by this in the case of a man who had been a painter all his life and who had suddenly been seized with abdominal cramps. He decided to operate however and found a perforated duodenal ulcer.

Not so common, but a very real difficulty, is that of spasm of the colon. It is best illustrated by the first case of it that I ever saw. I was an undergraduate intern. The patient was a prominent Halifax doctor. The diagnosis was intestinal obstruction. He had been given enemata at his home without result. After removed to hospital, he was given the old compound ox-gall enema, which was calculated almost to blow the middle out of a concrete wall, and this was repeated, but to no purpose. Finally it was decided that they would give him a little rest and before they operated they would give him a good sized dose of atropin. He is still going strong—still enjoying life, and his belly is still devoid of the surgeons trade-mark. Incidentally both his attending surgeons at the time have long since been called from labor to refreshment. I was reminded of this by the case of a woman whom we have just sent to her home a considerable distance from Halifax, on whom the findings were very similar. I have no doubt but that they are forms of "irritable colon" and so medical problems—problems that involve both the general factor of an increased underlying nervous irritability and the local factor of mechanical irritation, in which bran and similar trouble-makers and sometimes diverticulosis may play a large part.

No consideration of abdominal diagnostic difficulties can be undertaken without appreciating how the department of the urologist encroaches upon our field. In pyelitis we have the commonest causes of error. Without there being any direct reference to the kidney at all, it very frequently gives rise to right-sided pain and fever, sometimes nausea and vomiting, and so simulates appendicitis. There was a time, not so long since—two or three years ago—when never a week passed wherein we did not have one or more cases on which we had to change the diagnosis from appendicitis to pyelitis. For some time past now we have not seen one, but we shall again.* Fortunately the diagnosis is usually easily made by examination of the ruine. Once in a while, in milder cases, it is necessary to re-examine very carefully to get the signs which mean pyelitis, and occasionally having found them, we are misled. The case of a young girl of 12 illustrates this. She had had vague right iliac symptoms off and on for many months, during which her appetite would be off though she did not vomit. A low grade temperature accompanied each attack. Urinalysis showed high acidity, a few pus cells and a decided bacteriuria. Simple alka-

* Since this was written we have had the following experience: Five consecutive admissions to my service with diagnosis of acute appendicitis or "acute abdomen" were not operated upon. Four were acute pyelitis, one a boy of 6 was rheumatic fever.—In the latter the right hip joint only, was, involved for three days and at that the pain of onset was altogether abdominal.

linization of the urine was followed by a cessation of symptoms and disappearence of signs from the urine. But the attacks persisted in recurring and once or twice they caused her to come home from school. There was a tendency, when at their worst, for her right thigh to be slightly flexed. There was tenderness in the right iliac fossa, as *I* thought, along the course of the ureter. No abdominal rigidity. Leuococytes: 11,000, temperature about 99.6. The mother, and an aunt who was an experienced nurse, were sometimes worried about her appendix but with me were readily deceived by the mild pyuria which accompanied each attack. One day the tenderness was a little more focal, and there was slight localized muscular resistance. The urinary signs were much fewer this time although the attack was slightly more definite. I removed her appendix. It was only moderately infected but she has lived happily ever since. Incidentally she still likes me even though I did give her two years of unnecessary suffering—fooled by a few pus cells and some bacteria. However in similar circumstances I shall probably allow myself to be misled again, but probably not for so long.

Ureteral calculi provide their difficulties similarly but are more likely to be found where severe pain and vomiting are more prominent features.

There is one other extension of this system—though more properly it is the genital system—which provides its share of difficulty and that is the seminal vesicles. I have found it necessary in quite a few cases to question the diagnosis of appendicitis when the symptoms were atpical in men. When the history as recorded by the interne is negative for g.c., I have asked them, following physical examination, how long since they had their "dose" and have gotten answers one year, two or ten, as the case may be. I have seen them operated on, and their symptoms remain unaffected, until prostatic massage etc., had been undertaken; so that now, in the absence of very definitely diagnostic appendiceal signs they are turned over to the urologist. It may be interesting to speculate upon the mechanism by which disease of the seminal vesicles may simulate disease of the appendix, but again I must leave that with you.

When we come into the female pelvis, of course the commonest difficulty is *salpingitis*. The classical difference of higher temperature, more rapid pulse, higher leucocyte count, frequently bilateral tenderness, and history of g.c., are very excellent when they are there, but the gonococous though so ubiquitous is not always so obliging. Very careful physical and laboratory examination may then have to be relied upon to establish its pelvic origin and even then, the differential diagnosis is not positive because it sometimes happens that the appendix is a pelvic organ. Of course, the necessity for accurate diagnosis here is because the abdominal inflammatory condition (appendicitis) is an operative one while the pelvic condition (acute salpingitis) ordinarily is not.

There is one condition however which is a hardy perennial with us—i.e., *painful rupture of a graafian follicle.* In these days when either our selfish pleasure or economic necessity are causing us to think in terms of the rhythmic discharge of the female sex cells, women not infrequently know when they have laid their egg and from which side it has been laid. There is a feeling of distress or slight pain about 14 days before the onset of their next period. Now whether it is that in some of these people the covering of the follicle is tougher and has a better blood supply I do not know, but it is not an uncommon thing to find that some of them at that time just about half way between their periods have very real trouble. When this affects the right side they have, very frequently

during the last few years, been sent in to us for operation for appendicitis. And I was guilty of operating on some of them too!—not the acute remunerative kind either, for they were in the public wards—but I think I've stopped. Of the chagrin of taking out a normal appendix and finding a nice juicy bleeding gaping graafian follicle, very little is enough. It is three or four years ago since I decided that I would have no more of them on my service but I let up on that decision once since, the circumstances of which are interesting.

She was a young woman sent in by a city doctor with a diagnosis of appendicitis. We could not substantiate the diagnosis and after 24 hours or so sent her home. Some time later she came in again and the same thing occurred. Our diagnosis was "painful ovulation". A couple of months or so later the Superintendent of the Hospital was called and the very irate voice of her doctor complained very bitterly that the girl was having another very severe attack of appendicitis, that she had been in twice before and we had refused to operate, that he would take her to a private hospital but they could not afford it, and as it was, they would have to try to find some way of doing that if we continued to refuse to take care of her. Our very amiable Assistant Superintendent said "well doctor, if she has acute appendicitis you'll have to send her in and I shall speak to the doctor here about her." He did. I had again examined the girl and said: "Doctor, that girl has not an inflamed appendix, and I have no desire to take out a normal one. Moreover, etc., etc., etc., but for peace and quietness sake I'll tell you what I'll do; I'll give the girl our findings and our conclusions, tell her her appendix is normal and that if she wants it removed—but on the understanding that I am removing a normal structure—"I'll remove it." She was so filled up with the outside diagnosis and so bent upon having an operation anyway that she jumped to it, signed on the dotted line and we removed a normal appendix. The evidence of the recent right sided ovulation with a moderate amount of bloody fluid was very definite.

There remains one other department and I shall have done, viz. the *Diagnosis of intra-abdominal condition.* The vagaries of the appendix constitute a fair group of difficulties, as it lies anywhere from the left iliac fossa through the midline to points anywhere from the pelvis to the liver, intraperitoneally or retroperitoneally. Lying directly beneath the anterior abdominal wall in the McBurney region appendectomy is the simplest of intra-abdominal procedures. It is however very trite to say that in some of its retro-peritoneal and para-hepatic position it can give one plenty to think about. The only real point to mentioning it is the great desirability, of diagnosing before operation not only the fact of appendicitis but the location of the diseased organ. Of course this is not always possible, but with persistent application to this study, the number of cases in which that fact can be elicited, becomes higher and higher, and requisite operative procedures correspondingly simpler and safer.

In the great and important group of upper abdominal conditions, *peptic ulcer, carcinoma of the stomach* and *gall bladder disease,* clinical diagnosis is sometimes easy but unfortunately is sometimes fallacious. You will observe that I have said very little about the X-ray and laboratories up until now. I have purposely avoided mentioning them so that this department may in contrast stand out more clearly as that in which the use of these aids is imperative.

In the very acute conditions—emergency or other—that is not so. The clinical picture is usually adequate—at least to the extent of indicating that

an abdominal catastrophe has occurred and that it is probably necessary to open the abdomen. However even those are not always classical as the following two cases will illustrate.

A man of middle age, now lying convalescent in Halifax, for three or four days had upper abdominal distress—chiefly beneath the right sub-costal margin. He called a doctor because it was lasting so long. There was now an occasional abdominal crampy pain in the right side with slight rigidity. Temperature was only 100 and pulse 90, but leucocytes were 22,000. Operation disclosed a duodenal ulcer—that had been slowly leaking for four days. The other case was that of a man in his late forties—who was referred to us one night with the history that that morning he had been seized with very severe *precordial pain.* It had remained in that region for three hours and then began to pass *across his sternum and right chest to the right axilla.* It was not until six or eight hours later that the pain extended downwards across the costal margin into the abdomen.

When seen by us the abdominal signs were more wide spread, the greater part of the abdominal wall being as hard as a board. At that his temperature was 98.6, pulse 74 but his leucocytes were 24,500. He did not impress one as being very sick. He preferred to keep his knees drawn up most of the time but could lie straight and could turn himself about in the bed without apparent difficulty or distress. The emergency features of it were reasonably easy but what of the diagnostic? Being humbled by that I readily accepted the suggestion that it would be nice to share my humility with some of my associates. In view of its apparent thoracic origin I first had one of our visiting internists consider the chest, while two surgical consultants were being secured. By the time they had arrived the internest had ruled out the chest though that apparently had not been easy. Then the fun began. Every possibility within the upper abdomen was considered—gall bladder, stomach, duodenum, mesentery and pancreas; but there were real defects in every proposition submitted. On one point only was agreement general; that it was an emergency. The internist had to leave, but wanted to be phoned later; the other consultants waited. The abdomen was opened while administrative and consulting staffs stood by to see the delivery of the monster. There was revealed a freely leaking perforated gastric ulcer on the anterior wall in the prepyloric region. A very ordinary perforated ulcer! Truly the mountain had labored to bring forth such a mouse. However, thoracic signs in these perforation are by no means uncommon.

But it is in the more chronic states that, I feel, our great obligation resides, and I shall point the moral with another case history: A man in his early fifties had suffered from "stomach trouble" all his life. He always had to be careful in eating. He belonged to a "stomachy" family indeed, one brother having always had "sick headaches" and another brother having had to be careful concerning his food. The father died in his late forties of cancer of the stomach. This man was obviously an old gastritis case, whether ulcerated or not, but six months ago he began to have more trouble. His pain was not relieved by food and what was occasional vomiting, became more frequent as the weeks went by. He thought the medicine prescribed for him helped a bit at times but in the main it had not. He had been losing weight during the past year. Investigation revealed a large crater in the prepyloric region with 75-80% obstruction. The diagnosis was cancer of the stomach too extensive for resection.

It is very clear to us from a multiplicity of cases of this kind, that if we are to better our figures in cancer of the stomach in this country, it can only come about by the more frequent use of the diagnostic x-ray—even in our old cases of chronic gastritis. I say *even* in our old cases of chronic gastritis, but after all, are they not the one's in which we should be suspicious, especially when any change in their symptoms takes place? We teach and believe that cancer cannot arise from normal tissue but from tissues that have already been changed. What better foundation could we have than that of a chronic gastritis?

Then too the differentiation of gastric ulcer from duodenal ulcer—frequently quite impossible from the history of the case—should be made by x-ray, even though we are quite sure of the presence of an ulcer. For an ulcer on the gastric side of the pylorus is a very different matter from one on the duodenal side, is more difficult to heal and infinitely more likely to be malignant. Our whole clinical attitude might therefore be changed by an accurate placing of the lesion. And finally, both we and the x-ray may be wrong. A case to illustrate that is one which Dr. MacKenzie will remember. It was in my last year as a member of this Valley Society while practicing in Canning—The patient, a young, active, nervous type of man of 26. He developed pain 3-4 hours after food, which in turn was sometimes relieved by food. Sometimes he vomited considerable amounts of food. Under treatment he improved somewhat but not satisfactorily. I advised him t go to hospital for investigation and treatment. I was leaving the country for Post-graduate work at the time and had him go into Halifax under the care of Dr. MacKenzie. X-ray confirmed our diagnosis of duodenal ulcer. He was put on sippy treatment, improved greatly and was sent home. He returned a few months later not feeling so well, but he improved again under treatment and again went home. An emergency call some weeks later took a surgeon from Halifax to the Wolfville Hospital where the lad was in a bad way from haemorrhage. He was operated on at once, disclosing a hopelessly advanced carcinoma, of the pyloric end of the stomach!

Mr. President: I have need I am sure, to apologize again for the rambling nature of these remarks but I am sure that I should not for the subject. The Father of Medicine in one of his great aphorisms said "Diagnosis is difficult" and I am constrained to adopt the phraseology of another of the great in Medicine and make an addition to that: "Know the abdomen in all its clinical manifestations and *most* other things medical will be added unto you."

*Acute Anterior Poliomyelitis

N. Barrie Coward, M.D.

I HAVE chosen this as the subject of my paper not only because we are now in its season of occurrence, but also because it may prove helpful to review a disease that strikes so profoundly at the very best of our childhood population. Indeed there are but few diseases capable of creating as much fear among physicians and public alike, as an epidemic of acute anterior poliomyelitic. This is not only because of the death rate, but likewise because of the crippling that may follow an attack of the disease. Its presence should always be considered, because in spite of all our advances in immunology, epidemiology and preventive medicine, infantile paralysis still continues to take its toll of victims with unabated regularity.

Definition: We may define acute anterior poliomyelitis as an acute infectious disease, characterized by a febrile course, with evidences of central nervous system involvement, particularly of the spinal cord, and accompanied in a variable proportion of cases by the development of flaccid paralysis of irregular distribution and extent.

Etiology and Epidemiology: The specific cause of acute anterior poliomyelitis is a filtrable virus. It attacks males more frequently than females and the white race more frequently than the colored races. Rural communities show a bigger proportion of cases involved than do urban communities. The most susceptible age is six years and under, infants under six months usually being immune. Whereas any age may be susceptible to an attack of the disease, immunity usually mounts rapidly after ten years of age, so that most adults are immune.

It is a disease of temperate climates mostly, with a seasonal incidence, occuring usually between July and October. However sporadic cases may appear at any time.

It usually attacks all social levels appearing, even more frequently, among the better nourished members of the middle and upper classes than among their half-starved brothers and sisters of the slums.

One attack of the disease appears to produce permanent immunity and second cases, while known, are rare.

The incubation period is not exactly known but lies between six and eighteen days. The period of infectivity is no doubt at its highest during the latter part of the incubation period and the pre-paralytic period.

It is generally accepted that the virus enter the host by way of the upper respiratory tract, and that dissemination of the disease is by the same way. The theories of the spread of the virus from the site of entrance to the spinal cord are two:

(1). That poliomyelitis is a general systemic disease in which the virus first invades the blood stream and the lymphatic system and secondarily localizes in the spinal cord.

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(2). That the virus invades the central nervous system by axonal spread up the olfactory nerves, and thence downward through the brain to the spinal cord.

Studies on animals definitely support the second of these theories. This view may be summarized in the words of Flexner: "The virus ascends from the nasal membranes to the olfactory lobes of the brain and then continues by nerve conduction to the mid-brain and spinal cord. The virus gives rise to no detectable pathological changes in the nasal mucous membrane. It possesses an affinity for the olfactory nerve cells which lie exposed in this membrane. The hair like processes, or dendrites, of these cells project into a layer of mucous, which the virus enters to come in contact with the cells. The dendrites take up the virus and pass it on by way of the axon or nerve fibre to the olfactory lobe of the brain, whence it passes on still further by nerve connections to more distant parts of the brain and spinal cord. Hence the olfactory nerves carry the virus from the periphery, that is, the nasal mucous membrane, to the brain and they also carry it in the reverse direction. This two way transport has been shown for the first time in connection with the virus of poliomyelitis."

Pathology: The pathological changes in the nervous system consist of an inflammatory process, manifested by oedema, and changes indicative of injury or destruction of the motor cells. Whereas most of these changes are more marked in the spinal cord, notably the cervical and lumbar enlargements, they may be found in any portion of the brain as well. Many of the cells may be involved only in the oedema of the inflammatory process which, when it subsides, allows the slightly damaged nerve cells to recover and assume their function. Those cells, which are destroyed by the disease, undergo degeneration and are gradually absorbed.

Symptomatology: The onset of poliomyelitis is, usually, one of two types:

(1) The ordinary onset, where there is a febrile reaction with a steady increase in signs and symptoms of involvement of the nervous system, with paralysis developing, if it occurs, on the third to fifth day.

(2) The dromedary type of onset, where there is a febrile reaction without any specific neurologic symptoms lasting one to three days. This is followed by a period of well being of three to seven days. This in turn is followed by a secondary rise in temperature with rapid development of neurologic signs and symptoms, which then follow the same course as the first.

Although accurate statistics are lacking, it would seem that the first of these is the more common. However, a careful history, with the idea of a prodromal illness in mind, may reveal more cases of the dromedary type.

There is no typical symptomatology which may be ascribed to poliomyelitis. It varies with different epidemics and individuals. The outstanding symptoms at onset may be respiratory, gastro intestinal or meningitic in nature. As the course of poliomyelitis may be divided into four stages, the symptoms vary, more or less, depending on the stage.

The first, systemic or dromedary stage: There are no symptoms here more characteristic of poliomyelitis than of any other infection. The infection probably is localized in the olfactory bulb. Such symptoms as coryza, sore throat, fever, vomiting, diarrhea, constipation, irritability and so on are to be found.

The second stage is described by many as the pre-paralytic stage. This is the stage between the onset of symptoms and the appearance of paralysis. The term pre-paralytic may be misleading as it presupposes that there is no involvement of the nerve cells. They may be already infected, though the disease has not progressed sufficiently to produce paralysis. It is, however, the period of invasion of the central nervous system, and is sometimes called the stage of posterior poliomyelitis, or the lower sensory stage. The outstnading symptoms and signs are fever, headache, vomiting and those of meningeal irritation and nervous involvement.

Fever usually runs between 101-103°F. for a period of four to six days with a tendency to be higher in bulbar cases, though this is not so definite as to be of diagnostic aid.

Vomiting is present in about 80% of children. It is usually not very severe and is probably cerebral in origin.

The commonest signs of meningeal and nervous involvement include stiff neck and spine, Kernig's sign, Brudzinski's sign, tache cérébrale, pain in the muscles and hyperaesthesia. The reflexes are usually increased at this time. These are all self explanatory. Attention should be drawn, however, to the rigidity of the spine. This is the most important diagnostic feature which can be elicited on physical examination. Its absence in this stage militates against the diagnosis of poliomyelitis. It is best elicited in the milder cases by having the patient sit up in bed and bend forward as far as he can. In the more severe cases he will probably very carefully roll over on his side and then push himself up slowly, being careful not to bend his neck and spine. There he will sit rigid with his arms stretched out behind him to support him in the sitting position.

The third stage usually follows rapidly after the second and is called the acute febrile paralytic stage, or the stage of anterior poliomyelitis. It is the stage of impairment or destruction of the anterior horn cells. The signs and symptoms are tremors, ataxia, weakness of muscles, flaccid paralysis, diminution or loss of reflexes. The degree of permanant paralysis cannot be determined at this time and an attempt to do so is not only useless, but harmful. The accurate diagnosis of paralysis of the respiratory or pharyngeal muscles at this stage is, however, important as immediate treatment is necessary.

The fourth stage, the non-febrile paralytic stage or stage of recovery, follows about four days after the onset of the third. The infection dies out, the inflammation subsides and the undestroyed cells recover. This is accompanied by a diminution of the paralysis, which may resolve partially, or even completely. In general the recovery is much greater than would be expected from the degree of involvement at the height of the paralytic stage. This recovery may extend over a period of three to four months. After six months there is usually no more hope for further improvement, and the problem then becomes an orthopaedic one.

The type of poliomyelitis we are dealing with also varies and may be best diagnosed during or at the time when the paralytic stage should occur. It is usually classified according to the site of localization in the central nervous system. We have the following forms:

(1) *The abortive form* does not go on to the stage of paralysis. The diagnosis, while theoretically correct, is not always possible to make. There are no findings or symptoms other than could occur in any infection. However epidemiological evidence strongly suggests

its existence, and no doubt accounts for the wide spread immunity in adults to the disease. It would seem that, according to some, poliomyelitis should not be considered solely in terms of its neurological manifestations, and that paralysis is not essential for the true disease.

(2) *The ordinary type* is known to us all, and where one or more groups of muscles are paralysed.

(3) *The bulbar type* is usually very serious and shows involvement of the medulla. It is here we see paralysis of the respiratory and pharyngeal centres and death. It is possible for this to occur within twelve hours of the onset, before a diagnosis has been made.

(4) *The type resembling Landry's ascending paralysis* is usually progressive, more or less rapid and ultimately involves the respiratory centre, whereupon death occurs.

(5) *The encephalitic type* shows mainly symptoms and findings from involvement of the brain, e.g. excessive drowsiness, coma, irrational state and the appearance is more like that of a case of tuberculous meningitis. It is seen, perhaps, more frequently in adults and is sometimes difficult to recognize. The infection localises in the Betz cells of the motor cortex, which are analagous to the anterior horn cells of the spinal cord. As these cells are the origin of the pyramidal tracts the resulting paralysis is spastic in nature.

Diagnosis and Differential Diagnosis: At present there is no simple test for diagnosing susceptibility to poliomyelitis. The one in use for testing the patient's serum for virucidal bodies is both time consuming and expensive, and is of no value to the practitioner during an epidemic or when confronted with a possible case.

The clinical diagnosis rests upon the history, course of the disease and lumbar puncture. The spinal fluid is the only laboratory procedure which offers us any information, and this procedure is necessary if we are to make a diagnosis in the preparalytic stage. However if lumbar puncture is resorted to too early, the findings will be normal. Usually the spinal fluid is under increased pressure and its examination shows an increase in the globulin content, which is progressive during the acute illness, and a pleocytosis. The cell count varies being seldom under twenty, or over five hundred, with polymorphonuclears predominating in the first day or two and then the lymphocytes. The cell count falls rapidly over a period of a few days.

The diagnosis of poliomyelitis may not be an easy task as there are many other conditions that may suggest themselves to the examiner. At all times however, when confronted with a possible case great care should be taken. Any signs of paralysis in a suspected case calls for caution and an over zealous desire to discover muscle weakness by having the patient walk around, is harmful and very unnecessary.

The differential diagnosis varies, depending on the stage of the illness we see the patient in. During the first stage, any case of upper respiratory infection, especially if associated with gastro-intestinal symptoms, should be viewed with suspicion. As was said before, there is nothing to distinguish this stage from that of any other infection.

During the second stage, although the majority of patients present a fairly characteristic picture, great diagnostic care and skill is required. During

an epidemic, usually more conditions than not are termed poliomyelitis, while in non-epidemic times, the diagnosis is usually quite forgotten. Summarized in the words of Gordon "the diagnosis in the pre-paralytic stage depends on a reasonable clinical suspicion and a lumbar puncture." Whereas there are quite a number of conditions that can be mentioned, the commonest ones to be differentiated are: meningitis of other causes, meningismus, encephalitis, influenza, pneumonia, tetany, tetanus, cervical abscess, rheumatic fever, rheumatic torticollis. In all of these a careful history and examination, with a lumbar puncture establishes the diagnosis.

During the third or paralytic stage, we again are confronted with a variety of possible conditions. Chief among these are: post-diphtheritic paralysis, peripheral neuritis, lead poisoning, facial paralysis due to a local cause, scurvy, syphilis, injuries or infections of the bones and joints, transverse myelitis. At this stage a lumbar puncture may be of no value in the differential diagnosis, although the globulin content usually remains definitely increased for many weeks following an attack of the disease. A careful history, and examination of the paralysed muscles with reference to extent and groups involved, will usually clear up the difficulty. This is true particularly in ruling out such conditions as post-diphtheritic paralysis, polyneuritis, lead poisoning, facial paralysis due to a local cause and so on. Other conditions such as scurvy, syphilis and such have other stigma too, which make their diagnoses less complicated.

Prognosis: The prognosis in poliomyelitis varies with the type of case. In most the prognosis for life is good, with or without any resultant paralysis. Those unfortunate ones who suffer physically no doubt also suffer mentally, a reaction to their physical infirmity. The milder, bulbar cases, that is those with only a palatal or facial paralysis usually clear up fairly well. The more severe ones, where there is respiratory or pharyngeal involvement, have a high mortality rate, dying as a direct result of the disease, or from a secondary aspiration pneumonia. The encephalitic and Landry's type have an even higher mortality.

Treatment: There have been various methods suggested for the active treatment of poliomyelitis. However, whatever method is used, the chief therapeutic need is complete rest in bed and the most important objective is to determine the muscles involved and needing rest, so as to prevent deformity by the pull of opposing muscles.

In addition to the general care, sedatives and fluids as used in any systemic illness, various specific measures have been advised.

(1) The use of human convalescent serum. This is given in 20 c.c. amounts intramuscularly during the acute stage. Some authorities advise repeated doses during the acute stage whereas others give only the one dose of 20 cc. In the recent Manitoba epidemic, the use of one larger dose—30-40 c.c. was found to be the most satisfactory. It is best not used intraspinally as it is liable to cause a sterile meningitis on top of the already existing infection, which only adds to the trouble. The therapeutic value of this procedure is questioned by many. There is ample evidence to show that patients do just as well without it. However if it is to be of any value at all, it must be given during the pre-paralytic stage. Unfortunately it is impossible to diagnose poliomyelitis before this, otherwise its value might be greatly increased. Cnce paralysis has set in, it appears to neither prohibit further

paralysis, or modify that existing. Resistence and immunity in poliomyelitis seem to depend on two factors—virucidal antibodies and a tissue immunity, and, while the serum does release preformed antibodies, it does not and cannot produce that type of tissue immunity required for the protection of the sensitive nerve cell. As the mere presence of virucidal substances in the blood is not sufficient to prevent paralysis, other factors being equal, the use of serum seems then to offer more of a theoretical hope than practical. Still in spite of its questionable value the use of convalescent serum is advised. It does have, no doubt, a good psychological effect on the parent and also appeases the conscience of the doctor who, by so doing, knows that he has done the best he can for his patient. The serum in use should always be of high titre. The value of serum as a prophylactic for use in exposed persons seems to be of similarly questionable value.

(2) The use of the antistreptococcic serum of Rosenow. This is given intramuscularly in 20 c.c. amounts during the acute stage. It is seldom used now and its beneficial effects are much questioned.

(3) Repeated lumbar punctures with a view to relieving pressure not only in the cerebro-spinal canal but, possibly, also in the nerve structures. Various other methods also have been used as adjuncts to this, such as the use of adrenalin intraspinally, hypertonic solutions of glucose and saline and such. Statistically, patients appear to do just as well with this procedure as with the use of human convalescent serum.

(4) Transfusion of whole blood from an adult. This method is not without danger and its value is questionable and so should not be used.

(5) Autotherapy by the use of the patient's own spinal fluid and blood are useless.

Since our efforts at the treatment of the acute stages of poliomyelitis are so unsatisfactory our attention turns to the early care of the paralysed muscles, where early management is of the utmost value and importance. As was mentioned before, the most important object is to seek out the muscles paralysed and prevent deformities by overstretching. This should be done as soon as the paralysis or weakness takes place. In short, then, the real need for specific care becomes a factor when paralysis or weakness sets in. This may be directed toward two objectives, according to Legg: (1) to relieve sensitiveness of the muscles. (2) to prevent deformity.

The first of these may be done by hot packs, two or three a day, and by complete rest.

The second is carried out by the use of splints: (a) posterior wire splints for the legs to hold them in the normal position. (b) a corset to hold the trunk in normal position. (c) a platform splint to hold the arm in abduction to prevent any strain on a weakened deltoid (The elbow may be flexed or extended depending on the power in the biceps or triceps). (d) a hand splint to prevent deformity of the hand.

No attempt at massage or manipulation should be made during the sensitive stage—merely apply the splints to prevent deformity. Muscle training, which is of prime importance in re-educating the affected muscle group, should never be begun until all sensitiveness has left. This should only be done by a competent person, that is, one trained in functional anatomy.

The general use of electrical stimulation as the chief way to obtain muscle responses is to be condemned. Electrical stimulation does not take the place

of muscle training and used without an appreciation of the muscles involved or the degree of paralysis or the amount of current to be used, will produce more harm than good. There are three main ways in which harm may be done.

(1) by producing over-tiredness of the muscle, a state to be avoided at all times.
(2) by producing a response without re-education of the nerve pathway.
(3) by the fact that very often the amount of current required to produce a response in muscles too weak to respond voluntarily, spreads to the other and stronger muscles.

Swimming frequently recommended, does not take the place of localized muscle training. It merely is a pleasant way of doing exercises, as the buoyancy of the water allows the weakened muscles to perform their functions more easily than is possible otherwise.

Patients should not be encouraged to be up and about too early after the acute stage has subsided and they should never be allowed to stand in a deformed position.

Regarding bulbar cases, I am only going to say a word as treatment is very limited. Under this section I refer mainly to those with difficulty in swallowing or breathing. If there is much trouble in swallowing, tube feeding should be resorted to. Collections of mucus in the throat may be controlled by postural drainage or suction. Mild respiratory difficulties, where there is little or no cyanosis, are best treated by sedatives, oxygen and reassurance. In the more severe cases, it must be determined whether the difficulty is due to the paralysis of the respiratory muscles as a result of spinal cord involvement, or to involvement of the respiratory centre itself. Respirators, where obtainable, are of value only in the first group, and not in the second; in fact they may do harm. Respiratory difficulty due to collection of saliva and mucus, as a result of pharyngeal involvement, is also unsatisfactorily treated by the respirator.

Prophylaxis: Under this heading, I would like to briefly discuss the use of vaccines, which have been suggested for the active immunization of children against poliomyelitis. At present there are two types:

(1) The vaccine of Brodie and Park made from the killed virus.
(2) The vaccine of Kolmer, from attenuated live virus.

Both of these vaccines have been used and various benefits expressed for them. Many unbiased observers state that at present our knowledge of them is limited and that they have not been tried out in a large enough number of cases for any just judgement to be made. To do this, considering the proportion of the children attacked during the epidemic and non-epidemic periods, it would be necessary to divide them into two camps of 50,000 each, one being used for the vaccine and one as controls. Such a large scale experiment offers many difficulties, and has never been attempted. There have also been some accidents reported during the use of the live virus vaccine. In these, however, the possibility of the cases being in the incubative stage, during vaccine therapy, must be considered.

From a knowledge of the immunological reaction of the virus, it would seem that the mere presence of virucidal bodies in the blood stream is not sufficient to protect the individual. There must be a tissue immunity as well. This may be present with little or no circulating virucidal antibodies and is impossible to determine. According to Jungeblut such a tissue immunity,

upon which the actual immunity of the nerve cells depend, is intimately linked up with the production of the actual disease in the central nervous system. He summarizes his opinion on both of the vaccines as follows; "Active immunization with dead virus, while capable of producing an immunological response in the serum, must fail to produce that type of tissue resistence, which determines protection of the susceptible nerve cell. Similarly injection of the live virus vaccine, while theoretically more likely to produce the necessary immunity, frequently does not, due to the fact that the method of innoculation circumvents the direct route of the virus to the central nervous system. Such cases may develop paralysis on subsequent infections, when the barriers to the central nervous system are broken down. It would seem then that neither the use of dead, nor of live virus, guarantees that degree of efficacy and of safety which are indispensable for the general use of such a procedure in children." In spite of these opinions against the present use of available vaccine, from a comparative standpoint, it would seem that the hopes for a successful one should be good and, no doubt, a few years will see its widespread and general use. Viruses are usually good immunizing agents, not only during the acute illness, but also in vaccines, as evidenced by the successful use of small-pox vaccine, rabies and others.

Another point of interest which has been observed may be mentioned here. There seems to be some common basic mechanism which governs susceptibility and resistence to both poliomyelitis and diphtheria. Whereas actual immunization for diphtheria does not protect the child against poliomyelitis, in group cases reported, the percentage of cases of resultant paralysis in poliomyelitis victims is decidedly less in those who have been so immunized.

Some American investigators have advised the use of a nasal spray, containing 0.5 per cent each of picric acid and sodium aluminum sulphate in 0.85 per cent saline, as a prophylactic in controlling the spread of the disease. This is sprayed into the nostrils every other day for a week, and once weekly thereafter during the epidemic stage of the disease in an effort to counteract the virus at its site of entrance. Here again its use has been limited, and its value to date is uncertain. However if the solution is to be of any value it must be applied properly, well up in the vault of the nose, where it can protect the olfactory nerve endings.

Conclusions: Acute Anterior Poliomyelitis is an acute infectious disease, caused by a virus, having a seasonable incidence, and at times assuming epidemic proportions. In spite of our advancement in medical science and the knowledge of the disease in particular, we are still helpless adequately to control or prevent the disease. As the value of specific treatment for the cure of the disease is questionable our attention should be directed more to the care of the weakened or paralysed muscles, in order to prevent deformities. Work on vaccine therapy, being done at present, holds a brighter outlook for the future and it is to be hoped that before long something will be discovered which will enable us to control so devastating a disease.

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(21) Reaction following the Intramuscular Injection of Whole Blood: Milton Rapoport, M.D., and Joseph Stokes Jr., M.D. *Am. J. Dis. Child.*, Vol. 53, pg. 471, Feb. 37.

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1 Portable X-Ray machine complete with all accessories, very suitable for chest work and bone work. Very low price. Write N. S. MEDICAL BULLETIN.

NOTICE

The Secretary has received a letter from Ferryland, Newfoundland, asking help in securing a physician to locate there. Further information may be had from this office.

The Nova Scotia Medical Bulletin

Official Organ of The Medical Society of Nova Scotia.

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THE Refresher Course just ended and so largely attended by those who are eager to improve themselves and their service to the public, brings to our minds some of the difficulties under which the town and rural practitioners labour. Anyone who has ever practised in the country knows that the doctor called to visit a patient some ten or fifteen miles away is expected to make a correct diagnosis and prescribe complete treatment on that one visit. The patient expects it because he cannot afford to pay the mileage charges for investigation and study and the doctor does the very best he can because he knows only too well the man's financial limitations. Any of the acute infections diseases or heart conditions which require daily supervision by the physician constitute another great burden when the patient resides in the more remote sections, a burden which becomes an almost impossible tax on the individual who intends to pay it and an equally impossible tax on the doctor who, as so often happens, has to pay the transportation costs and do it for nothing.

In this way the man who supplies the food for the urban population is penalized and so in turn is the man who keeps him well enough to work.

The answer would seem to lie in some arrangement whereby the Government would pay some set mileage rate on all calls over four or five miles, the patients to pay for the visits and drugs and dressings etc. This would ensure the doctor payment for his transportation without altering the patients personal responsibility for his own medical care.

J. W. R.

Minutes of the First General Business Meeting of the Medical Society of Nova Scotia, 1937

THE first general business meeting of the Medical Society of Nova Scotia was held at Pictou Lodge, Pictou, N. S., on Wednesday, July 7th, 1937, at 9.50 a.m.

The meeting was called to order by the President, Dr. J. R. Corston.

It was moved by Dr. H. K. MacDonald and seconded by Dr. Dan Murray that the minutes as published in the BULLETIN in October, November and December, 1936, be taken as read. Carried.

The Secretary had been instructed by the President and Executive to brief all reports and give the general meeting the substance of these reports.

It was moved by Dr. Cameron and seconded by Dr. Cochrane that the order of business be suspended.

The Secretary read the resolution of the Executive regarding proper postural methods in schools and improved lighting and sanitation which was approved by the general meeting: also the Executive resolution dealing with a letter from Mrs. MacMillan of Reserve which was also approved by the general meeting.

The reports of the Cogswell Library Committee, the Council of the Canadian Medical Association and the Legislative Committee were briefed by the Secretary and the reports approved by the general meeting.

As the report of the Editorial Committee asked for an appropriation for proper editing of articles, this report was read by Dr. Schwartz. A discussion followed in which Dr. G. H. Murphy doubted the wisdom of having a paid editor, and suggested that perhaps the money should be paid to the editors themselves rather than hiring someone else. Dr. A. L. Murphy said that many of the manuscripts received were in bad condition, but did not agree with Dr. Schwartz that a technical reviewer would be useful unless he were a member of the profession. He pointed out that the editors would have to revise the work of a technical editor. He also pointed out that much time was consumed in reading over articles before they went to the printers. Dr. Cameron of Antigonish felt that the editors should not take too many liberties with articles sent in by physicians as this would destroy the individuality of the articles. Dr. Murray asked if more care could not be taken by authors in the future. He referred to an editorial of Dr. Nicholls in the Canadian Medical Association Journal asking for more care in the construction of articles; he believed that if the physicians were notified through the Journal they would give more care to their writings. Dr. Gosse, former editor-in-chief of the BULLETIN, said he noticed a marked improvement in the articles in the BULLETIN today as compared with seven years ago. Dr. Williamson said he agreed with the statements of Dr. Cameron that if the physicians in the Province knew their articles were to be submitted to a critic they would be rather hesitant in writing; he felt that the BULLETIN should not have a surplus, but that any profits should go to the editors; he felt that the writers would feel that a medically trained critic would be much more sympathetic than one outside. Dr. G. H. Murphy moved an amendment to Dr. Schwartz's

request that there be one experienced reader engaged, and that any surplus obtained in the BULLETIN be divided among the editors of the Journal; this was seconded by Dr. Cameron of Antigonish. Dr. Gosse asked if that would be separate from all the salaries. Dr. Cochrane pointed out the danger of attempting to obtain more profit from the BULLETIN by encouraging advertisements of an undesirable nature; he agreed that a technical expert outside of the profession should not be engaged, that articles contributed from the profession in the Province were more valuable than contributions contributed from outside. Dr. Gosse asked what the profits from the BULLETIN were, and thought we were talking about a BULLETIN profit where no profit existed. Dr. Grant suggested that the matter be held up until Dr. Muir read his financial statement. Dr. Gosse thought that if it were clear that the Society had a profit and if there were need for doing something for reimbursing men who are engaged in the editorial board then the Society should appropriate some money to the Editorial Board. Dr. J. G. MacDougall: "The case has been very well presented, and I am very much in accord with the idea that our medical confreres who are conducting the BULLETIN would not only carry on, but carry on just as they are doing. There has been a tremendous improvement in the BULLETIN within recent years. I would like to have a sum set aside, say $250.00, from the funds of the Society for the editors of the BULLETIN, and that it be divided among themselves to suit themselves. The second point is that the statement dealing with the BULLETIN show part of the cost of the office charged against the maintenance of the BULLETIN. Any money over can be carried into the general account." Dr. G. H. Murphy: "If it is agreeable to the seconder of my amendment I would change it to read this way, that an honorarium of $250.00 be paid to the Editorial Board of the BULLETIN yearly, and that it be divided in whichever way the Editors decide". Dr. Cameron said he quite agreed with the new motion. Dr. Gosse did not think it should be left to the Editorial Board to determine the division of that money, it could be done by a committee of the Society rather than have it done within themselves. Dr. Dan Murray suggested that a sum of $250.00 be granted to the Board to be used by the Editorial Board as they see fit. Dr. Whitman thought it could be left in the hands of the Editorial Board to be used as they saw fit to improve the BULLETIN. Dr. G. H. Murphy moved that this Society vote a sum not to exceed $250.00 to be dispensed at the discretion of the Editorial Board as they may determine in the interests of the Journal, and that the report of the Editorial Board as made be adopted. This was seconded by Dr. Dan Murray. Dr. MacDougall moved that in the future the financial statements regarding the BULLETIN include part of the secretary's salary and also part of the clerical secretary's salary, which was seconded by Dr. G. H. Murphy. Carried.

The report of the Cancer Committee was read by the chairman, Dr. Gosse, at the conclusion of which business was suspended to allow for an address of welcome to the Society by Mr. Gunn, the Deputy Mayor of Pictou, as follows.

To the President and Members of the Nova Scotia Medical Society.

Gentlemen:—

It is with great satisfaction that representing the Town Council and all the citizens of the Town of Pictou, I have the privilege as Mayor of the Town to welcome the Members of the Medical Profession at your annual meeting.

Your profession is one of the noblest of them all in that its purpose and object is to bring aid to the sick and afflicted and help back to life those who are unfortunate enough to be laid aside with illness.

All our citizens will be glad to do anything in their power to make pleasant your stay with us in this historic old town.

We trust that your gathering will be a successful and happy one and that everyone of you may carry away from your visit with us, pleasant memories and we all hope that you may very soon again come back to Pictou for another meeting.

Signed on behalf of the Town of Pictou.

Dr. Corston expressed the pleasure of the Society in the hearty welcome they received from the Town of Pictou.

Following this Dr. Gosse moved the adoption of his report, which was seconded by Dr. H. K. MacDonald. Carried.

The Secretary next briefed the report of the Public Health Committee and advised that the Executive Committee had moved that we suggest to the Nominating Committee that Dr. P. S. Campbell be made chairman of the Public Health Committee for 1937-38, which was approved by the general meeting.

There was no report from the Historical Committee, but the Special Historical Committee which had been appointed to carry out the suggestions made in Dr. Patton's report in 1936 had asked that the sum of $250.00 be voted for cabinets for the medical museum. It was moved by Dr. Grant and seconded by Dr. Dan Murray that this report be held over until the next morning's session, after the report of the Treasurer would be given.

The report of the Workmen's Compensation Board Committee was also briefed and the resolution of the Executive read. Dr. H. K. MacDonald read his report and moved the adoption of same which was seconded by Dr. Williamson. Dr. Cameron thought that the report deserved the commendation of all the Society. He stated that the thirty-day limit was a great hindrance to the proper care of surgical cases, particularly at the beginning of convalescence when they should have more time in hospital. After the cases are discharged treatment must be continued at the expense of the municipality. Dr. MacDougall asked that the resolution of the Executive be again read, which was done by Dr. Grant. Dr. Eagar pointed out especially the unfairness of fees in relation to X-ray examinations incident to surgical injuries. Dr. H. K. MacDonald stated that so far as the scale of fees was concerned that was a matter for the Workmen's Compensation Board. Dr. Cochrane felt this report was one of the most important the Society had to deal with. He spoke very strongly against reduction in mileage and also pointed out the necessity of having the thirty-day period done away with. He illustrated his argument by referring to an accident case which was discharged from hospital at the end of the thirty-day period and sometime later returned again to the doctor with symptoms of epilepsy. He pointed out that in some cases the care received after the thirty-day period is more important than that during the first period of illness. Dr. H. K. MacDonald stated they had stressed that point particularly, and felt that the Society should go a little slow in the matter, and did not feel that the Board would reduce the mileage; the mileage in Ontario is low, but their distances are less and their roads better. Dr. MacDougall felt that we should not be unduly critical of the Board, but

that much could be gained by informal conference between members of the profession and members of the Government. Dr. Dan Murray said he would like to move the adoption of the Workmen's Compensation Board report, but with an amendment, so that in future if a similar commission be appointed to deal with medical matters the Medical Society be invited to appoint a representative to the commission. Some medical men have not always been fair with the Board, and made too many long trips, and that is why they reduced the mileage. He cited a case where a medical man travelled every day for two weeks to see a patient where it was not necessary. Dr. Williamson did not think that the third part of the clause would strengthen the cause of the Society, as it might irritate the Government. He thought that the Compensation Board were willing to do the best they could. Dr. G. H. Murphy seconded the amendment of Dr. Murray's. Dr. Williamson did not think it would help our proposition to any great extent to have a regular representative as a member of the Commission. The fundamental idea underlying the appointment of any commission by any Government is with the idea of getting it away from prejudice or party. For a medical man to have a place on that Commission as one of its members, functioning as a member of the Commission, strikes at the very fundamental meaning of the Commission. Dr. Murray: "My intention was to modify that resolution somewhat; now I move that it be deleted." Seconded by Dr. J. G. MacDougall. Carried.

It was moved and seconded that the report of the Workmen's Compensation Board Committee be adopted. Carried.

The Secretary briefed the report of the Committee on the Relation of the Medical Society of Nova Scotia to the Canadian Medical Association. It was moved by Dr. Gosse, and seconded by Dr. Williamson that this report be received. Carried.

The report of the Provincial Medical Board was also briefed and it was moved by Dr. Williamson and seconded by Dr. H. K. MacDonald that this report be adopted. Carried.

Next followed a brief of the Victorian Order of Nurses. It was moved by Dr. H. K. MacDonald, seconded by Dr. Williamson, that this report be adopted. Carried.

The President stated that the next item was the appointment of the Nominating Committee, and named the following slate: Dr. D. A. MacLeod, Sydney, Chairman; Dr. Dan Murray, Tatamagouche; Dr. L. M. Morton, Yarmouth; Dr. G. R. Forbes, Kentville and Dr. H. W. Schwartz, Halifax.

The report of the Secretary was then briefed. Dr. Cameron moved the adoption of the report which was seconded by Dr. Dan Murray.

The Secretary pointed out that there was one matter which demanded action by the Society, whether the financial agreement of a conjoint fee shall be continued for the coming year. The arrangement was made for one year only. It was moved by Dr. Gosse and seconded by Dr. Murray that the request for conjoint fee be made to the Canadian Medical Association for next year. Carried.

The next item was the request by Dr. J. W. Sutherland, Secretary of the Medical Staff of Highland View Hospital for honorary membership for Dr. C. W. Bliss of Amherst. Dr. MacDougall stated that it was with the greatest pleasure that he moved that Dr. Bliss be placed on the honorary list, and that he felt regret through lack of thought he had not brought this very matter to the attention of the Society on a former occasion. Dr. Cochrane seconded this motion. Carried.

Regarding the three resolutions from the Western Nova Scotia Medical Society it was moved by Dr. Roy and seconded by Dr. Cameron that the resolution of the Executive re the insurance scheme be confirmed. Dr. Cameron stated he felt that the Federal Government should share in it, they should show the medical profession some compensation for all the services they have given during the years free of charge, that some little recognition on the part of the Federal Government is due the profession in this Province and throughout Canada. He suggested that the Committee appointed would bring the matter before the Dominion Medical Council and they in turn present any findings they may arrive at to the Government of Canada to compensate the doctors for all their gratuitous work they have given throughout the years.

The resolutions of Drs. Miller and Whitman re radio advertising of quack medicines, and the practice of chiropracty were next presented. It was moved by Dr. MacDougall and seconded by Dr. Murray that these resolutions be submitted to a special committee to deal with the matter in question and bring in a report at the business meeting next morning. Carried. The names of Dr. Clarence Miller, Dr. MacDougall and Dr. Dan Murray were submitted for this committee.

It was moved by Dr. Gosse and seconded by Dr. Whitman that the meeting adjourn at one o'clock.

The second general business meeting of the Medical Society was held at Pictou Lodge, Pictou, N. S., on Thursday, July 8th, 1937, at 9.50 a.m.

The meeting was called to order by the President, Dr. J. R. Corston.

The first item to be brought to the attention of the meeting under unfinished business was the resolution of Drs. Miller and Whitman re radio advertising, and also the resolution re chiropracty. Dr. Murray advised that the committee which had been appointed the day before, namely, Drs. Miller, MacDougall and Murray, had not met, as the chairman had left immediately after the general business meeting, but that as far as he was concerned the resolution re chiropractors should be deleted, as we have a law at the present time they are illegal, therefore it is superfluous; as far as the other resolution is concerned Dr. Murray moved its adoption.

Dr. Eagar thought that the chiropractor was the result of negligence, that if the medical profession gave a little more attention to massage we would see less need of the chiropractor.

It was moved and seconded and carried that the first resolution re quack medicine radio advertising be adopted.

Dr. Eagar moved that the clause regarding chiropracty be referred to the Executive of the Medical Society of Nova Scotia for further consideration and such action as they deem to be necessary consistent with the dignity of this organization. Seconded by Dr. J. S. Murray. Carried.

Report of the Nominating Committee was then presented as follows.

President—Dr. Allister Calder, Glace Bay.

1st Vice-President—Dr. J. H. L. Simpson, Springhill.

2nd Vice-President—Dr. H. K. MacDonald, Halifax, also to be in charge of arrangements of joint meeting with the Canadian Medical Association.

Secretary—Dr. H. G. Grant, Halifax.

Treasurer—Dr. W. L. Muir, Halifax.

Council C. M. A.—Dr. J. C. Morrison, New Waterford; Dr. S. W. Williamson, Yarmouth; Dr. Dan Murray, Tatamagouche; Dr. O. B. Keddy, Windsor.

Legislative Committee—Dr. J. G. MacDougall, Halifax; Dr. J. L. McIsaac, Antigonish.

Editorial Committee—Dr. H. W. Schwartz, Dr. A. L. Murphy, Dr. J. W. Reid, all of Halifax.

Cancer Committee—Dr. N. H. Gosse, Dr. S. R. Johnston, Dr. V. O. Mader, all of Halifax.

Public Health Committee—Dr. P. S. Campbell, Halifax; Dr. J. J. Cameron, Antigonish; Dr. A. L. McLean, Halifax, Dr. A. E. Blackett, New Glasgow.

Historical Committee—Dr. M. R. Elliott, and Dr. P. S. Cochrane of Wolfville, and Dr. G. R. Forbes, Kentville.

Insurance Committee—Dr. T. A. Lebbetter, and Dr. C. A. Webster of Yarmouth, and Dr. A. B. Campbell, Bear River.

Workmen's Compensation Board—Same committee nominated at the request of the Executive.

Relations with the C. M. A.—Dr. J. R. Corston, Dr. G. H. Murphy, Dr. K. A. MacKenzie, Dr. G. R. Burns, Dr. H. B. Atlee, all of Halifax.

It was moved by Dr. D. A. MacLeod and seconded by Dr. Morton that this report be adopted.

As the Council C. M. A. should consist of seven members it was moved by Dr. Muir and seconded by Dr. Dan Murray that Dr. J. V. Graham, Halifax, be added: moved by Dr. K. A. MacKenzie and seconded by Dr. A. B. Campbell that Dr. D. A. MacLeod, Sydney, be added: moved by Dr. A. B. Campbell and seconded by Dr. J. S. Murray that Dr. H. A. Creighton, Lunenburg, be added: moved by Dr. Morton and seconded by Dr. Roy that nominations cease.

It was necessary to take a vote to decide the members of the Council C. M. A. This was done and the following were elected: Dr. J. C. Morrison, New Waterford; Dr. S. W. Williamson, Yarmouth; Dr. Dan Murray, Tatamagouche; Dr. O. B. Keddy, Windsor; Dr. J. V. Graham, Halifax; Dr. D. A. MacLeod, Sydney; Dr. H. A. Creighton, Lunenburg.

The President asked for a motion amending the report of the Nominating Committee to the effect that the executive of the Health Officers' Association shall be our Public Health Committee. It was moved by Dr. D. A. MacLeod and seconded by Dr. Dan Murray that the executive of the Health Officers' Association should be our Public Health Committee with Dr. P. S. Campbell, Halifax, as Chairman. The Executive of the Health Officers' Association is as follows—Dr. C. E. A. deWitt, Wolfville; Dr. R. A. MacLellan, Rawdon Gold Mines; Dr. H. J. Townsend, Louisbourg; Dr. L. M. Morton, Yarmouth; Dr. C. B. Crummey, Trenton; Dr. B. S. Bishop, Kentville.

The Medical Museum Committee consists of Dr. H. L. Scammell and Dr. K. A. MacKenzie, Halifax, and Dr. W. W. Patton of Port Morien. Dr. MacKenzie advised that he had had a letter from Dr. Patton asking to be released from this Committee, although he would still take an interest in it, and Dr. MacKenzie moved that Dr. R. P. Smith be put on the committee in place of Dr. Patton, which was seconded by Dr. Schwartz and carried.

Dr. Muir asked if we had the names of the Committee of the Workmen's Compensation Board, and it was decided to hold a vote by ballot to elect this Committee. Dr. K. A. MacKenzie nominated Dr. J. J. Roy, Sydney; Dr. D.

A. MacLeod nominated Dr. H. K. MacDonald, Halifax, as chairman; Dr. Grant nominated Dr. J. V. Graham, Halifax; Dr. Muir nominated Dr. T. A. Lebbetter, Yarmouth; Dr. Dan Murray nominated Dr. M. G. Burris, Dartmouth; Dr. Schwartz nominated Dr. J. J. MacDonald, New Glasgow; Dr. G. K. Smith nominated Dr. J. R. Corston, Halifax, who withdrew; Dr. L. M. Morton nominated Dr. M. G. Tompkins, Dominion; Dr. T. R. Johnson nominated Dr. J. B. Reid, Truro. It was moved by Dr. K. A. MacKenzie and seconded that nominations cease.

Dr. Roy stated he supposed it was taken for granted that the meeting would be in Halifax next year, and moved that the annual meeting of the Medical Society of Nova Scotia be held the third week in June with the Canadian Medical Association meeting in Halifax in 1938, which was seconded by Dr. Dan Murray.

The Treasurer's report was then presented, as given in the minutes of the Executive meeting. It was moved by Dr. Dunn and seconded by Dr. Clarence Campbell that the Treasurer's report be adopted. Carried.

Following the Treasurer's report it was moved, seconded and carried that the report of the Special Historical Committee, including the appropriation of $250.00 for the purchase of cabinets, be approved.

The ballot for the Committee of the Workmen's Compensation Board was then received and was as follows: Dr. H. K. MacDonald, Halifax; Dr. J. B. Reid, Truro; Dr. M. G. Tompkins, Dominion; Dr. J. J. Roy, Sydney; Dr. M. G. Burris, Dartmouth. It was moved by Dr. D. A. MacLeod and seconded by Dr. Dunn that the Nominating Committee's report as amended be adopted. Carried.

The list of new members as given at the Executive meeting was read by the Secretary, and it was moved by Dr. K. A. MacKenzie and seconded by Dr. Roy that the recommendation be adopted and these new members be declared duly elected. Carried.

Dr. D. A. MacLeod then spoke on a previous notice of motion given regarding compulsory fees. He felt that since the paid membership had increased so much during the past year that for the present it would not be necessary to consider this and withdrew his notice of motion.

The following notice of motion was given by Dr. K. A. MacKenzie of Halifax; "At the next annual meeting I shall move that the name, 'Medical Society of Nova Scotia' be changed to 'Canadian Medical Association Nova Scotia Branch', and that the by-laws of the Association be amended in such a way as may be necessary to complete this change."

In connection with the Presidential address and the suggestion given by Dr. Corston that the executive meet at least every six months, it was moved by Dr. Grant and seconded by Dr. K. A. MacKenzie that this be put into effect next year, and that part of the travelling expenses of the executive be paid out of the general funds. Carried.

It was moved by Dr. K. A. MacKenzie and seconded by Dr. W. H. Robbins that the incoming executive be empowered to appoint a committee in Medical Economics. Carried.

The chair was then taken by Dr. Allister Calder, the President-elect.

The meeting was then addressed by Dr. T. H. Leggett of Ottawa, the President of the Canadian Medical Association and Dr. T. C. Routley, the General Secretary.

Meeting adjourned at one o'clock.

The Cancer Problem in Canada

FOR some years it has been observed that there was a definite increase in the incidence of Cancer in Canada. During the year 1935 over Eleven Thousand people died of the disease.

There has been much talk about organized effort to control the ravages of Cancer. There has been very little action.

Little is known about the cause of Cancer. Our hope for the future is, that laboratory research workers may discover the cause and an easily applied remedy which will prevent its occurrence or neutralize its effect when it has developed. That day may be far distant.

Our responsibility for the present is, that so far as possible, the knowledge which we do possess about the disease shall be applied for the benefit of the people of Canada.

There is ample proof to justify the statement that we do know, that given cases of cancer in an early stage of development in accessible locations, a high percentage of them can be permanently cured by the prompt application of adequately planned surgery or by radiation singly or in combination.

Unfortunately there is more ample proof that similar cases, neglected owing to the ignorance of the victim, or to the lack of alertness of the medical attendant until they reach an advanced stage of development can not be cured by surgery, radiation or any other earthly power.

In order to prevent the occurrence of such catastrophies, education is required; education, orderly, intensive and long continued.

Neither research nor educational activity can be carried on without money.

In the late months of 1934 and the early part of 1935, the Earl and Countess of Bessborough appealed to the Canadian people to contribute to a Fund for the Control of Cancer in Canada. The Fund, known as "The King George V Silver Jubilee Cancer Fund for Canada", was to be an expression of the loyalty and devotion of the Canadian people to the King Emperor George V on the completion of the 25th year of his reign.

The contributions in the aggregate proved to be disappointingly small. When we reflect that at the time no organization existed which could give an authorative answer to the frequently repeated questions, "How is the money to be spent?" "To what purpose is the money to be devoted?" the result of the campaign is not surprising.

The fund raised proved to be wholly inadequate to carry on either a continuous programme of research or of education.

In February 1937 the Canadian Medical Association submitted a proposal to the Trustees of the Fund.

It offered to take the initiative in bringing about the establishment of a National Society for the Control of Cancer in Canada.

That Society would be an independent body.

Its functions would be to:

(a) Raise funds to augment the "King George V Silver Jubilee Cancer Fund for Canada".

To organize an orderly campaign of education both lay and medical in regard to Cancer.

(c) To give an opportunity to every individual citizen of Canada to aid by becoming a member of the Society at a nominal annual membership fee.
(d) To assemble through qualified committees, information which would assist the Board of Trustees in deciding upon worthy objects for Financial Aid.
(e) To invite all organized bodies who are able to render any type of service in the fight against Cancer, to become affiliated with it, so that their efforts may be co-related.

Anticipating this invitation the Canadian Medical Association has offered to place at the disposal of the National Society for the Control of Cancer all that it has in the way of organized National Services. These will include its Department of Cancer Control. Its Post Graduate Committee, the Department of Hospital Service, The Journal of the Canadian Medical Association, the various Provincial Associations and Local Medical Societies.

It is expected that other National Organizations of a lay character will undertake the activities for which they are particularly fitted.

Steps have already been taken to organize the National Society. Very soon in every Province men and women who are willing to undertake the task of completing and carrying on the organization will be approached and their active participation engaged.

Just as soon as a skeleton organization has been set up, Provincial Branches will be established. Then in turn local units will be formed.

We are confident that in Canada there are a sufficient number of men and women in all walks of life who will identify themselves with this activity. They will ensure that funds will be available to maintain not only a continuous programme of education, but in addition to give financial aid to Canadian Laboratory Research workers. These workers are deserving of support. A number of them have already achieved world-wide recognition in other fields of Research.—*Alberta Medical Bulletin.*

(This statement is submitted by the Cancer Study Committee of the Canadian Medical Association.

Doctor returning home from Refresher Course—

I come from haunts of Clute and Kern
I've made a sudden sally,
I sparkle now with things I learn,
Refreshed I am begolly.—A. C. McL.

The marriage was solemnized at St. Peter's Bay, P. E. I., on August 17th, of Dr. Margaret Grace Murray, graduate of Dalhousie, 1936, daughter of Mr. Robert Murray and the late Mrs. Murray, Fraser's Mountain, and the Rev. Roy D. Webster, son of Mr. E. Murray and the late Mrs. Murray. The ceremony was performed by the Rev. James A. Pue-Gilchrist of St. Andrew's Church, Sydney, who was in charge of St. Peter's Bay Church during the absence of the pastor, Rev. Edward Aikens. Rev. and Mrs. Webster stayed at New Glasgow until September first, and then left for Toronto. Later they go to Vancouver from whence they sail for Western China where they will be engaged as missionaries of the United Church of Canada.

Dr. and Mrs. E. K. Maclellan of Halifax are visiting London, England, where their son, David, has recently joined the staff of the Associated Press. Dr. and Mrs. Maclellan also plan to visit Scotland and the continent.

Department of the Public Health

PROVINCE OF NOVA SCOTIA

Office—Metropole Building, Hollis Street, Halifax, N. S.

MINISTER OF HEALTH - - - - HON. F. R. DAVIS, M.D.,F.A.C.S., Halifax.

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DR. C. E. A. DEWITT - - - - - - - - - - - - - - -	Wolfville

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Braine, L. B. W., Annapolis Royal.
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Eaton, F. F., Truro.
Havey, H. B., Stewiacke.
Johnston, T. R., Great Village (Mcpy.)

CUMBERLAND COUNTY

Bliss, G. C. W., Amherst.
Drury, D., Amherst (Mcpy.)
Gilroy, J. R., Oxford.
Henderson, C. S., Parrsboro.
Cochrane, D. M., River Hebert (Joggins).
Withrow, R. R., Springhill.

DIGBY COUNTY

Belliveau, P. E., Meteghan (Clare Mcpy).
Dickie, W. R., Digby.
Rice, F. E., Sandy Cove (Mcpy).

GUYSBORO COUNTY

Chisholm, A. N., Port Hawkesbury, (M.H.O. for Mulgrave).
Sodero, T. C. C.; Guysboro (Mcpy).
Moore, E. F., Canso.
Monaghan, T. T., Sherbrooke (St. Mary's Mcpy.)

HALIFAX COUNTY

Almon, W. B., Halifax.
Forrest, W. D., Halifax (Mcpy.)
Glenister, E. I., Dartmouth.

HANTS COUNTY

Bissett, E. E., Windsor.
MacLellan, R. A., Rawdon Gold Mines (East Hants Mcpy).
Reid, A. R. Windsor (West Hants Mcpy.)
Shankel, F. R., Windsor, (M.H.O. for Hantsport.)

INVERNESS COUNTY

Lindsay, R. D., Port Hawkesbury.
Boudreau, Gabriel, Port Hood, (Mcpy. and Town).
Proudfoot, J. A., Inverness.

KINGS COUNTY

Bishop, B. S., Kentville.
Bethune, R. O., Berwick (Mcpy.)
de Witt, C. E. A., Wolfville.
Cogswell, L. E., Berwick

LUNENBURG COUNTY

Marcus, S., Bridgewater (Mcpy.)
Rehfuss, W. N., Bridgewater.
Donaldson, G. D., Mahone Bay.
Zinck, R. C., Lunenburg.
Zwicker, D. W. N., Chester (Chester Mcpy).

PICTOU COUNTY

Blackett, A. E., New Glasgow.
Chisholm, H. D., Springville, (Mcpy.)
Whitman, H. D., Westville.
Crummey, C. B., Trenton.
Young, M. R., Pictou.
Benvie, R. M., Stellarton.

QUEENS COUNTY

Ford, T. R., Liverpool (Mcpy.)

RICHMOND COUNTY

Deveau, G. R., Arichat (Mcpy).

SHELBURNE COUNTY

Brown, G. W. Clark's Harbour.
Fuller, L. O., Shelburne, (Town and Mcpy)
Wilson, A. M., Barrington, (Barrington Mcpy.)
Lockwood, T. C., Lockeport.
Churchill, L. P., Shelburne.

VICTORIA COUNTY

MacMillan, C. L., Baddeck (Mcpy.)

YARMOUTH COUNTY

Hawkins, Z., South Ohio (Yarmouth Mcpy).
Morton, L. M., Yarmouth.
Lebbetter, T. A., Yarmouth (M.H.O. for Wedgeport).
LeBlanc, J. E., West Pubnico, (Argyle Mcpy).

Those physicians wishing to make use of the free diagnostic services offered by the Public Health Laboratory, will please address material to Dr. D. J. MacKenzie, Public Health Laboratory, Pathological Institute, Morris Street, Halifax. This free service has reference to the examination of such specimens as will assist in the diagnosis and control of communicable diseases; including Kahn test, Widal test, blood culture, cerebro spinal fluid, gonococci and sputa smears, bacteriological examination of pleural fluid, urine and faeces for tubercle or typhoid, water and milk analysis.

In connection with Cancer Control, tumor tissues are examined free. These should be addressed to Dr. R. P. Smith, Pathological Institute, Morris Street, Halifax.

All orders for Vaccines and sera are to be sent to the Department of the Public Health, Metropole Building, Halifax.

Report on Tissues sectioned and examined at the Provincial Pathological Laboratory from August 1st, to September 1st, 1937.

During the month, 193 tissues were sectioned and examined, which, with 55 tissues from 11 autopsies, makes a total of 248 tissues.

Tumours, simple	19
Tumours, malignant	30
Tumours, suspicious of malignancy	...
Other conditions	144
Tissues from 11 autopsies	55
	—248

Communicable Diseases Reported by the Medical Health Officers for the month of August, 1937.

County	Chickenpox	Diphtheria	Infantile Paralysis	Influenza	Measles	Mumps	Paratyphoid	Goitre	Scarlet Fever	Typhoid Fever	Tbc Pulmonary	Tbc.-other Forms	V. D. G.	Whooping Cough	Septic Throat	Vincent's Infection of Throat	Erysipelas	Pneumonia	TOTAL
Annapolis	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	2
Antigonish	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Cape Breton	..	..	..	..	..	..	..	..	3	..	4	1	..	..	..	..	..	..	8
Colchester	..	..	5	..	..	..	..	..	1	..	..	..	..	10	..	..	..	1	17
Cumberland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Digby	..	..	..	..	3	..	..	..	..	..	1	..	..	..	..	1	..	..	5
Guysboro	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Halifax City	..	2	5	..	..	1	..	..	3	..	..	..	..	..	..	..	1	..	12
Halifax	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Hants	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Inverness	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Kings	..	..	1	8	..	..	..	..	1	..	..	1	3	..	2	..	..	..	16
Lunenburg	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	3
Pictou	..	..	4	..	..	..	..	..	1	..	2	..	..	..	..	..	..	..	7
Queens	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Richmond	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Shelburne	..	..	..	..	10	..	..	..	1	..	1	..	6	..	..	..	..	..	18
Victoria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Yarmouth	..	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	3
TOTAL	1	2	18	8	14	1	..	..	11	2	10	2	10	10	2	1	1	1	94

Positive cases Tbc. reported by D. M. H. O's. 65.

RETURNS VITAL STATISTICS FOR JULY, 1937.

County	Births		Marriages	Deaths		Stillbirths
	M	F		M	F	
Annapolis	11	8	20	12	8	0
Antigonish	10	6	3	11	8	0
Cape Breton	101	81	61	24	19	3
Colchester	22	16	14	6	7	0
Cumberland	58	42	28	21	16	3
Digby	16	13	16	7	10	1
Guysboro	9	18	13	3	6	2
Halifax	93	91	73	33	40	3
Hants	25	27	15	10	14	2
Inverness	11	13	6	5	5	0
Kings	32	37	16	19	25	0
Lunenburg	26	27	20	18	16	1
Pictou	32	28	28	8	3	0
Queens	7	8	5	8	0	1
Richmond	13	12	6	5	9	0
Shelburne	13	12	6	10	6	1
Victoria	6	6	1	5	4	0
Yarmouth	22	15	18	18	12	0
	507	460	349	223	208	17

Personal Interest Notes

A WEDDING of outstanding interest to the medical profession in the Maritimes was solemnized on Saturday afternoon, September 4th, at three o'clock in Christ Anglican Church, Campbellton, when Mary Kathleen Kilgour Napier, eldest daughter of Mr. and Mrs. William Fraser Napier, Campbellton, was united in marriage to Dr. George Leslie Covert, second son of Hon. W. H. Covert, K.C., former Lieutenant-Governor of Nova Scotia, and Mrs. Covert, Dartmouth. The ceremony was performed by Rev. Canon W. E. Fuller, rector of the church. Dr. Covert is a graduate of Dalhousie Medical School, 1934. Since his graduation he has spent three years post-graduate study in England and Scotland. On their return Dr. and Mrs. Covert will reside at 288 Robie Street, Halifax.

Dr. C. J. W. Beckwith, who for eight years has been assistant medical superintendent at the Nova Scotia Sanatorium at Kentville has been appointed Divisional Medical Officer of the Provincial Department of Health with headquarters at Sydney, C. B. Dr. Beckwith graduated from Dalhousie University in 1925, and recently after having been awarded a scholarship attended and took the degree of C. P. H. at the University of Toronto.

Dr. E. P. Hopgood of the Nova Scotia Hospital, Dartmouth, has returned after spending a pleasant visit at the home of her parents, Mr. and Mrs. Hume Hopgood, Malpeque, P. E. I.

Dr. and Mrs. O. R. Stone and family of Bridgetown have left for an extended visit to the Old Country. Dr. Stone plans to take post-graduate study, especially in surgery, at London, and also at Edinburgh.

Dr. T. M. Sieniewicz, medical superintendent of the Halifax City Tuberculosis Hospital, has just returned from England. During his visit to the Old Country the Doctor attended the Brompton Hospital for Diseases of the Lungs at London and also St. George's Hospital, where he devoted his time to a study of diseases of the lungs and also allergic conditions.

Dr. and Mrs. A. C. Gouthro of Little Bras d'or are at present visiting in New York.

Dr. and Mrs. Clyde Marshall of New Haven, Conn., with their son and daughter, have been visiting the former's parents, Mr. and Mrs. G. R. Marshall, Halifax.

The marriage took place on Tuesday evening, August 31st, at Sydney of Miss Bessie Gaum, daughter of Mr. and Mrs. Bell Gaum and Dr. H. J. Davidson of Sydney. Dr. and Mrs. Davidson will reside in Seattle, Washington.

OBITUARY

DR. Bernard I. Chaisson of Eelbrook, Yarmouth County, passed away at the age of thirty-six years, at the home of his parents in Margaree Forks, Inverness County, on September 3rd. Dr. Chaisson attended St. Francis Xavier University where he graduated in 1926, later graduating from the medical school of Dalhousie University in 1932, and has practised at Eelbrook since that time. He is survived by his wife, two children, one son Robert, aged three, and one daughter, Dorothy, fifteen months, also his parents, seven brothers and nine sisters. The funeral was held on Sunday afternoon, September 5th, the pall bearers being Dr. M. E. McGarry of Margaree Forks, Dr. L. J. LeBlanc of Cheticamp, Dr. W. G. J. Poirier of New Waterford, Dr. H. A. Ratchford of Inverness, Dr. J. G. Cormier of Sydney and Dr. G. Boudreau of Bellecote.

Dr. George B. Kennedy died at his home at Seabright, Halifax County, September 9th. following a stroke. He was sixty-two years old. Dr. Kennedy was a native of London, Ontario, a son of the Rev. and Mrs. John Kennedy. He came to Nova Scotia several years ago following his graduation in 1901 from Western University, London. He first practised at New Germany, later at Tangier and Elmsdale and finally settled at Seabright. Dr. Kennedy served with the Medical Corps during the Great War and afterwards was on the staff of Camp Hill Hospital for several years. He leaves to survive him his wife, one brother, Dr. W. J. Kennedy of Musquodoboit Harbour, two sons, George and Harold at home, and two daughters, one living at Moser's River and one at home.