PSYCHODYNAMIC CONSIDERATIONS IN THE TREATMENT OF PSYCHOTIC PATIENTS*

JOHN C. WHITEHORN, M.D. †

IN UNDERTAKING to discuss psychodynamic considerations in the treatment of psychotic patients, it is necessary to clarify the perspective before attempting to formulate the more concrete materials. At the present stage of psychiatric progress, "psychodynamic" is a term which arouses different concepts and different feelings in different observers. In the fairly recent past, it was the common supposition in psychiatry that morbid psychological experiences and personal behavior were merely symptomatic—the result or the reflection of some more substantial physical or chemical chain of causation. The notion that psychological events might form significant links in a chain of causation, producing illness or modifying the condition of patients, either for good or for evil, was viewed by the medical profession in general with outright skepticism or with mildly disparaging agnosticism.

In dealing with grocers, bankers, stock brokers and garage mechanics, in the ordinary affairs of life, physicians have followed the general cultural supposition that the way you treat a person makes a difference in how he reacts, but these matters have been considered as "within normal limits," and reactions which exceed normal limits have been considered, in this tradition, as being beyond the range of any ordinary psychological influence. Physicians have also relied upon psychological influences in the business of building up a professional practice, wherein much practical value is attributed to a pleasing bed-side manner and a knack of diplomacy in consultations. But on the "scientific" side—in the understanding of illness and in efforts at scientifically oriented treatment—the medical profession has been in general, reluctant to admit, professionally, that psychological forces really count for much. Practitioners of medicine, with much experience and confidence in the wisdom gained from experience have acknowledged the practical importance of psychological attitudes in dealing with patients, and actually do try to influence patients psychologically, but this is considered as a little to one side of scientific

† Professor of Psychiatry, Johns Hopkins University; Director of the Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital.
medicine — a part of the art — something to be kept out of one's scientific papers lest one be suspected of quackery.

In this traditional medical way of thinking a little room has been left for the possibility that there might be some very special and extraordinary forms of psychological influence, such as possibly "hypnosis" or possibly some special esoteric "psychoanalytic method," capable of influencing personal reactions or mental processes occurring beyond the normal range. Indeed, in many of the current references to psychodynamic factors in psychiatry it is tacitly assumed that this term implies something much more impressive and "scientific" than ordinary psychological influence, —something at least as esoteric as Freud, and perhaps even more blackly magical than Freud.

There has been a tendency for the Freudian psychoanalysts to preempt the term "psychodynamic" and to speak as if psychodynamic considerations were limited to the narrow confines of Freudian "mechanisms," re-named "dynamisms." To accept this limitation on the term "psychodynamic" would, I think, be a grave theoretical error, because one could then not expect to accomplish any more in psychotherapy than did those who tried to apply the classical psychoanalytic technique.

For our discussion today I am proposing that we deliberately deny any qualitative distinction between ordinary psychological influence and "psychodynamics" conceived of as something esoteric. I am proposing that you consider with me that the term "psychodynamic" includes any and all forms of psychological experience which appear to influence personal reactions and behavior, either within the so-called normal range or beyond that somewhat arbitrary boundary. I do not mean by this to beg the whole question, and commit us a priori to a belief in the infinite power of psychodynamics in dealing with psychotic patients.

Quite to the contrary, we find ourselves, at the start, faced by the every-day fact that psychotic patients seem extraordinarily resistant to psychological influence. If there is any group of human beings for whom psychodynamic influences seem least effective, it would appear to be the psychotic group. They are, indeed, selected automatically because of their resistance to ordinary psychological influences. When the family and friends have exhausted their means of trying to work on the patient, he is considered crazy and brought to the hospital or to the psychiatrist. Before proceeding, therefore, I want to ask, and answer, a weighty practical question:

Does a psychodynamic approach to the therapy of the psychoses make a statistically demonstrable difference in the rate of recovery or social improvement of patients? An affirmative answer to this question would have great practical and theoretical weight in influencing the opinions and practices of hospital psychiatrists. It is difficult to establish clear-cut "controls" for such statistical comparisons. Schizophrenic
patients offer a better possibility for demonstration than manic-depressive, because the "naturally" high recovery rate of the latter leaves little room for differentials.

In the statistical evaluation of insulin treatment of schizophrenia in the New York state hospital system, the "control" series had an improvement rate of 22.1%. A somewhat similar study in the Rhode Island state hospital (Rupp and Fletcher) indicated about 21.9% improved. There is evidence of considerably higher recovery rates under the more intensive and individualized therapy given to schizophrenic patients in private mental hospitals. The report by Cheney and Drewry indicates that nearly half (42%) of a series of 500 schizophrenic cases at the Bloomingdale Hospital recovered or improved sufficiently to get along without hospitalization. The markedly higher recovery rates in the private hospital as compared to the state hospital do not prove any specific psychodynamic formulation, since they represent the general, over-all advantages of such care, but it seems highly probable that these advantages are gained by the more individualized and personalized care and treatment possible in the private hospital; and this probability does have definite psychodynamic implications. In the Henry Phipps Psychiatric Clinic, under Dr. Adolf Meyer's leadership, parergasic reactions (essentially equivalent to schizophrenic illnesses) were treated somewhat more specifically on genetic-dynamic principles and, according to Rennie's follow-up studies, of the 134 patients checked approximately nine years after the initial hospital admission, 64% were out of hospital. Discounting this by 12% for those who were considered unproductive invalids, although living at home, there were 52% who were socially useful citizens. These comparisons indicate the probability that a well-directed therapeutic approach based upon a reasonably fair understanding and use of psychodynamic principles, may yield improvement rates twice as high as in the control cases, where favorable psychodynamic influences could not be as fully implemented.

This sample, from a rather grim segment of the field of psychiatry is offered here to call attention to the importance of psychodynamic considerations in the psychoses. There are also other reports, less statistically impressive, but giving more individual details, concerning the successful psychotherapy of schizophrenic patients, by Kempf, Sullivan, Fromm-Reichmann, Bullard, Betz, Rosen, Knight and others.

What is the modus operandi of those successful psychotherapeutic efforts with schizophrenic patients? What are the reasons why such efforts are not more uniformly successful? In what respects does the "schizophrenic process" represent a personal form of reaction, susceptible to the personal dynamic influence of the therapist, and in what respects is this "process" impersonal?

Such questions, important for the development of psychiatry, are often interpreted as if any useful therapy must be specific. It is my in-
tention to discuss some psychodynamic considerations which seem to me, in some measure, rather more characteristic of schizophrenic illness than of other illnesses, but before doing so, it would be well to state that successful therapy is not necessarily specific therapy.

Every schizophrenic patient is a person; nearly every patient has been at some time functioning in a fairly successful fashion, with a set of personal values which bound him in a gratifying sense of morale with some other fellowmen; these human attributes are not altogether lost because he shows for a time a psychotic disturbance in his conduct of life; when his psychiatric treatment can be individualized with much opportunity for personal contact with doctors and nurses, dormant potentialities may be activated, normal hopes and expectations may resume something of their accustomed role, and much that is still actually or potentially normal in the personality may be strengthened and encouraged. An understanding and appreciation of "human nature" may make the psychiatrist useful to a patient even though specific morbid processes are not specifically understood or specifically combatted. Psychodynamic influences in the treatment of a psychotic patient are therefore as broad as "human nature," and one must take care to avoid unjustified implications of specificity.

Special Psychodynamic Features in Schizophrenic Patients

The preceding discussion has served to establish some presumptive evidence that psychodynamic influences are helpful in the treatment of schizophrenic patients.

In undertaking now to speak more definitely about some psychodynamic considerations which have special pertinence for schizophrenic patients, I shall rely largely upon personal experiences with such patients. Since we are concerned here with psychodynamics, in relation to therapy, it might appear that I am trying to formulate a specific psychotherapy for schizophrenia. In a very broad sense that is true; but it should be made clear here that I am not attempting to outline a specific pattern by which any person who follows the pattern can cure any and all schizophrenic illnesses. It does not appear to me that there is any such procedure. Rather I shall try to indicate in a rough way some of the psychological struggles and conflicts with which I have become familiar in dealing with such patients, as it has appeared to me necessary to take them into account in attempting to understand and to be psychiatrically helpful to these persons.

Attempts to understand schizophrenic behavior, rather than merely to describe it, have frequently taken the form of trying to apply preformed conceptions of psychopathological mechanisms, as worked out in the neuroses. It is, indeed, true that the clinical study of schizophrenic patients provides a happy hunting-ground, so to speak, for those interested in the sort of material that is commonly repressed by normal and
neurotic patients. The behavior and statements of schizophrenic patients exhibit such materials in great abundance, and the patients themselves go a long way in the "interpretation" of this material. Ambivalent feelings, incestuous wishes, unrealistic impregnation fantasies, homosexual sensitivities and much other fascinating "material," which in other patients is unconscious and strongly repressed, requiring much skill and patience to uncover, are displayed by schizophrenic patients to the student of psychopathology in embarrassing profusion — particularly embarrassing to the psychoanalyst, because such disclosures, coming from a schizophrenic patient do not seem to have the theoretically expected abreactive accompaniment nor the desired therapeutic value. It has been said, half facetiously, that schizophrenic patients were the only people who knew of Freud's discoveries before he did.

The ready disclosure of such psychoanalytically "symbolic" material may be compared to the disclosure of intimate housekeeping details by the collapse of the facade of a bombed apartment house. Many schizophrenic patients happen, by reason of their particular form of reaction, to drop the type of socially-presentable "front" maintained so meticulously by ordinary mortals. Much of the material disclosed is not inherently peculiar to schizophrenia, and it has only an indirect bearing on the schizophrenic illness. Many of these disclosures have special pertinence to a pre-psychotic psychoneurotic phase in the patient's struggle for adjustment, but have relatively slight direct pertinence for understanding the meaning of the schizophrenic psychosis.

It is the author's opinion, therefore, that much of this "symbolic" material, interesting as it is, lies a bit to one side of the main issues in dealing with schizophrenic patients. The author has found it a great advantage to approach the study of schizophrenic patients rather more broadly from the viewpoint of the psychodynamics of ordinary life. Fair success has attended attempts to comprehend the significant issues by direct dealings with such patients rather than by interpreting into another idiom.

The practical question then is: In what way can one establish direct, significant communication with a schizophrenic patient, for the purpose of helpful psychodynamic influence?

The answers to this question depend very much upon one's grasp of the individual patient's viewpoint, and an appreciation of his personal experience, which is seen by the observer as a psychosis. Are there some useful general principles, or is this all a matter of individual intuition? In attempting a preliminary answer to this question, I shall try to pull together, in a didactic form, some of my experiences and reflections.

In general a schizophrenic reaction develops, sometimes quickly, more often gradually, as the culmination of a period of prodromal preoccupation. In the earliest stages the patient's preoccupations are usually
heavily charged with anxiety, but in the midst of the psychosis (which has provided some pseudo-solution) the initial anxiety may be more or less forgotten. If one wishes to learn about such preoccupations there is little point in asking directly. It is more profitable to inquire about the life situation. The patient in telling about the situation — now, or at an earlier time — may reveal, by the perspective in which he casts his comments, the projection of his own preoccupations. The aim of this "situational" approach is not to find the situational cause of the patient's illness, but to comprehend the patient's attitudes toward his life situation, and the persons involved in it. Without such a personalized appreciation of the issues, the psychiatrist, although he may quite correctly categorize the psychosis, will have no basis for establishing personal rapport with his patient, *as the patient is experiencing the psychosis*. To every patient, his illness is a personal experience, not a category in a catalogue, and if one wishes to establish personal rapport, for the better utilization of psychodynamic influences, one needs to establish liaison through some imaginative appreciation of the patient's attitudes and experience. Rapport has to work in both directions; one may hope that the patient will establish rapport with the therapist, but the therapist can also take active steps to establish rapport with the patient through efforts to comprehend his attitudes. There is no great advantage in pretending to agree with the patient's attitudes, but there is considerable advantage in appreciating his attitudes.

Every patient who is aware of a personal problem tends to feel that it is a unique problem. In a certain sense this is true, and can be promptly acknowledged. Yet the psychiatrist is greatly aided by the extent to which certain generalizations hold true.

Among schizophrenic patients, for example, one notes a very general resentment of control and a yearning for "independence." At least one can say that in their conversations, one notes frequent use of the word "independence," or some equivalent phrase such as "I wish they would let me alone." With regard to this yearning for "independence," the typical schizophrenic pattern of behavior is, however, passive resistance and resentment rather than an active rebellion directed toward specific concrete goals. Discussions with schizophrenic patients regarding their childhood often reveal feelings of having been obliged to be excessively good, or obliged to submit to some domineering parent who was felt to be imposing a strict conventional rule. The apparent lack of parental appreciation or affection is later deeply resented, with much emphasis upon "the hollowness of it all," or some other expression implying that the game is not worth the effort. Not infrequently, then, the parents are disowned and disparaged, outspokenly or by implication. These hostile remarks about parents are often difficult for the independent observer to check on, but the principal psychodynamic consideration is the patient's attitude, not whether it is objectively justified or not.
An illustration may clarify this point. A schizophrenic young woman of 23, in recounting her childhood experiences, expressed much resentment against her father for what she had come to consider afterwards as his unfeeling domination, and she mentioned in this connection some ill-fitting shoes provided for her by him at some time in early childhood which she said had caused her much pain but which she had had to wear. Further discussion brought out the fact that she had not mentioned to her father the painfulness of wearing these shoes. Just how he was supposed to have known that they hurt, was not at all clear, yet she blamed him bitterly for causing her this continued pain. This pattern of unreasonably blaming a parent is a very common phenomenon in schizophrenic patients' accounts of their childhood. It may also be noted that there is an additional attitudinal implication, in the account given by this schizophrenic young woman, that she may have been yearning for such a close and sympathetic attention from her father that he would have intuitively appreciated her pain, and gotten her some other shoes. With all due skepticism as to a patient's reportorial precision of statements about situations, the psychiatrist nevertheless does well to ponder in this way the attitudinal implications of the patient's words. Indeed, if all statements which might be in error were discarded from consideration, or merely written into the record as evidence of delusion or distortion, one would be throwing away a very large portion of the material most useful for the psychodynamic understanding of the patient's attitudes, of the conflicts within the patient and of the issues felt to exist between the patient and others. To discard all these potentially useful cues to an insight into a patient's attitudes, on the basis of delusion or factual distortion, would be to ignore the fundamental importance of attitudes. This is perhaps the most common neglect in the hurried hospital practice of psychiatry.

In the common schizophrenic issue of "independence" one notes a certain hollowness or lack of substantiality. The desire for independence is not, as it might be for others, a practical wish to have freedom to work out a definite concrete constructive ambition. Most typically, the schizophrenic patient's desire for "independence" is a resentment against influence. The influence which is resented is not purely imaginary. It is in the nature of normal social living that everyone is continuously and inescapably surrounded by a network of social influences which operate usefully to maintain socially acceptable modes of behavior. Most persons scarcely notice their "social harness" because they are gratifyingly occupied in the considerable range of freedom permitted, nor perhaps would the schizophrenic patient notice his "social harness" if he had felt significantly rewarded by the appreciation of others and had grown accustomed to the gratifying sense of personal significance supported thereby. Even though in early life such a person has tried hard, through conforming to the expectations and social demands of parents and others, to gain affection and appreciation, he often feels unsuccessful and in-
adequate, and comes to resent these demands as coercive and reacts with emotional revulsion against whichever coercive influences are felt most gallingly. Thus, at times, the most elementary social conventions are disregarded — even the primary constraints of domestication, such as bowel-and-bladder-control. To be so "independent" as that means not freedom but futility — "as independent as a hog on ice."

When the psychiatrist attempts to exert psychotherapeutic influence upon a schizophrenic patient in a mood like this he faces indeed a difficult task. There is required at least some period of non-directive, permissive and appreciative contact. Yet a wholly passive attitude does not succeed. In this connection, one must consider another rather characteristic feature of many schizophrenic patients. They appear to view the world (from the paradigm of their view of their own parents) as composed of only two possible types of persons, the strong but domineering type or the indulgent but weak type. It is useful, therefore, while avoiding any tendency toward coerciveness or domination, to provide the patient at least some glimpses of one's own capacities for decisiveness and strength, not exerted against the patient, but if possible with and for him. With a schizophrenic patient a junior physician has often an advantage over his seniors. The patient automatically attributes a domineering attitude to the more authoritative figure, whom he sees as the "big boss." This attribution may be entirely unjustified, but the patient reacts in this way automatically and persistently, as an expression of preformed attitudes and expectations. During insulin treatments one may note, also, that some schizophrenic patients develop an appreciation of the physician's decisive strength, acceptable because it does not seem personally coercive in this context. Conversely, any hint of nagging impatience toward a schizophrenic patient is likely to arouse a massive, though often passive, resistance. As an expression of the sensitivity to whatever is felt as social coercion, even in the later stages of a patient's recovery from a schizophrenic reaction, any special emphasis upon meeting conventional expectations, as a basis for appreciating the patient's success, is likely to be deeply resented, and may precipitate a relapse. The personal appreciation of the therapist appears to be most helpful to the social and economic rehabilitation of the schizophrenic patient when it can be based on the patient's attractive personal qualities and individual talents of an artistic kind rather than on correct behavior or success in business.

The foregoing comments are offered as illustrative of the general sensitivity of schizophrenic patients against coercive influences. The physician who appreciates this point and deals with the schizophrenic patient in a pattern suggested by these considerations has better rapport and more significant communication than otherwise.

The characteristic schizophrenic "independence," or reaction-against-influence, is manifested in relation to sex, in a variety of subtly-similar
PsYCHODYNAMIC CoNSIDERATIONS IN TREATMENT

but apparently contrasting ways, such as in ascetic withdrawal, homosexual panic, or autistic love affairs. Freud's classical paper on the Schreber case (3) has especially highlighted the preoccupation with the homosexual problem as an important feature of paranoid schizophrenia, for which there has been much clinical confirmation — and also much misunderstanding.

The schizophrenic reaction-against-influence can extend so far as to make him feel an unwilling victim of sexual impulses — coerced, so to speak, from within. "You can't get away from biology," was the pathetic, resigned comment of one paranoid schizophrenic man, about to return home to his wife. He was a poetical, impractical but intellectually brilliant school master, married to a practical-minded, forceful, lusty wife. In his "sickest" periods he had spent rapturous weeks and months in contemplation of the Virgin Mary — poetical visions of femininity devoid of crude sexual drive, in which he had experienced a glorious sense of "freedom from biology." For a fellow such as this, many of the features of social life — feminine dress, dancing parties, polite manners, cosmetics, etc., etc. — may appear in effect as Aphrodisiac accessories in a combined social and biological conspiracy to seduce one, willy nilly, into sexual and matrimonial subjection.

It is true that for many men with attitudes somewhat similar to those of this school master society also provides conventional defenses against emotional entrapment by females, only to leave one unexpectedly susceptible to, and unguarded against, the arousal of sexual feeling by another male. The biological constitution of mankind is rather nonspecific in this respect — as with other anthropoids — and leaves one open to such homosexual arousals. It is the author's clinical impression that many paranoid schizophrenic reactions — both in the form of panic and delusional defenses — represent reactions against homosexual impulses in this sense, not because of any specially pathological "homosexuality" but because the patient feels influenced in an unwelcome way, at an unguarded point, and becomes intensively preoccupied in improvising defenses. Back of it all, for the schizophrenic, lies the reluctance to being caught up in any influences which might sweep one into the dangerous current of life.

A paranoid schizophrenic girl had manifested in the prodromal phase a pattern of behavior which might be called intensive nymphomania — an extravagant succession of affairs in which she exposed herself to overt sexual experience with men in what might be described as a desperate pursuit of a kind of emotional immunity — seeking an unattainable "independence of spirit" by making light of the physical sexual relationships. She did not succeed — her spirit was repeatedly bruised by these experiences — but that only increased the desperateness of this curious search for "spiritual freedom." She was, naturally enough, preoccupied about the condemnation by her parents, and by the church, and
by society in general, out of which preoccupations she evolved the conviction of a conspiracy to make a prostitute out of her — or rather, more precisely expressed, "to make her out a prostitute" by the misinterpretation of her own spontaneous "idealistically motivated" behavior.

The autistic love-affair, so prominent a feature of many hebephrenic patients, may appear superficially, like the above example, to express a strong sex desire, but its very silliness — the absence of practical social steps toward effective sexual mating — hints at something amiss, and in some of these cases, too, one can come to understand and appreciate the dynamics better by taking account of the independence motif. The one-sided romance has for the schizophrenic a certain charm. One may have much of the poetical and romantic pleasure, while free of conventional responsibilities and the blunt sexual demands of others or crude sexual impulses in oneself. Such fairy-like, spiritual freedom does not seem a very substantial desideratum to ordinary men and women, but it is in the general vein of the schizophrenic aversion to "social harness."

The foregoing comments regarding the issues involved in schizophrenic reactions and the attitudes of schizophrenic patients may be pulled together in the following generalized formulation which presents in my opinion an important foundation for working with schizophrenic patients. Schizophrenic patients are by no means completely different from the rest of mankind. They share in the broad, basic psychodynamically important characteristics of human living — anticipatory striving, at conscious and unconscious levels, toward what is desired and against what is dreaded, in patterns of behavior which are shaped by social experience but which in large measure derive their emotional values from basic biological meanings. Schizophrenic patients, being human in this way, may be influenced, favorably or unfavorably, by somewhat the same interpersonal influences which have universal human significance. But the schizophrenic is characteristically "independent" in a special sense; he has special resistances against being coerced by conventionality, special antipathies toward being influenced or "victimized" to serve another's ends — even a very generalized reaction-against-influence. He is therefore rather resistive to authoritarian or rationalistic efforts at psychotherapy. Schizophrenic patients are not, however, beyond the possible psychotherapeutic reach of interpersonal dynamic forces, provided there is a generous expression of personal, individual consideration and appreciation by an interested person, strong enough to rely upon but not domineering.

Special Psychodynamic Features of Depressive Reactions

Our discussion thus far has been concerned almost entirely with schizophrenic reactions. It has seemed appropriate to give the major attention to schizophrenic illnesses, in a discussion of psychotic patients, first because they constitute a major portion of the over-all problem of the psychoses, second, because in certain respects they typify the general
problem of dealing with psychotic patients, since nearly all psychotic patients present some schizophrenic features, and, third, because therapeutic endeavors with schizophrenic patients are so commonly unsuccessful that one can feel assured that something is making a difference when one has a fairly good sized portion of success. The latter consideration — namely, therapeutic success — has often been invoked as the evidence for validating new concepts or methods regarding other mental disorders, such as hysterical or depressive illness, but such evidence by therapeutic trial cannot be so convincing in conditions where the control group as well as the experimental group have a good prognosis.

It seems undesirable, however, to limit ourselves wholly in this discussion to schizophrenic patients. I have chosen, also, to discuss certain psychodynamic considerations in the treatment of depressive reactions.

Whatever may be one's conceptions of the deeper processes involved in depressive reactions, attempts to utilize psychodynamic influence depend in a practical way upon the establishment of some degree of mutual understanding between patient and physician, and for purposes of such communication it becomes important to appreciate how the patient experiences his psychosis, as a personal experience. Most of my comments today are pertinent to this approach to the problem.

One needs to find some basis of mutual understanding with a depressed patient — some way to understand, for example, self-accusations which seem on the surface unintelligible. It is a help toward such understanding to remember that many depressed patients have characteristically been demanding of themselves and of others a very extreme degree of self-control, amounting, in effect, to omnipotence. Failing in the omnipotent control of themselves or of events, they feel guilty and insecure. When one perceives this point and comments upon it, these patients do not usually agree (they do not usually quite agree with anything one says) but subsequent conversations are often less inhibited — somewhat as if the patient, although constrained not to agree, feels relieved that the other fellow is looking into that aspect of the guilt-feeling.

Indeed, in a fair proportion of depressed self-accusatory patients, one finds many little evidences of self-justifying counter currents, manifested sometimes in subtle derogation of others who might be accusing them, sometimes in somewhat paranoid formulations whereby others are blamed as unfair, and very often manifested in self-accusatory statements of such excessive absurdity as to elicit direct contradiction or at least disbelief in the listener. Not infrequently the current of self-accusation and the counter-current of self-justification strongly suggest to the listener that a patient is trying hard, but unsuccessfully, to achieve a state of penitence, and the protracted duration of the condition may represent the continual inability to feel as penitent as he thinks he ought.

The psychiatrist with any considerable breadth of human experience and sympathy has been acquainted with grief and sorrow as the common
lot of mankind, and knows of the responsiveness of many grief-stricken persons to appreciative and sympathetic counsel. Against such a background of comparison the psychopathologically depressed patients exhibit a striking contrast in their stiff-necked resistance. One senses, in many, a great bitterness and hatefulness. The perception of this component of hostility or resentment is a point on which one may note much disagreement among psychiatrists. As a point of systematic psychiatric formulation, it has become an article of dispute. Some psychiatrists appear to assume doctrinairely an element of hostility in all depressive psychotics, as a part of "the mechanism"; others admit its presence only in a few cases which give overwhelming testimony in the form of a clearly stated acknowledgement of hostility by the patient; still others (of whom the author is one) perceive evidences of hostile feelings in many depressed patients, without assuming its universality in all depressions.

Those instances in which it proves possible for the psychiatrist to comment to the patient with equanimity, and without partisan bias, upon the personal issues underlying such partially manifested hostility, have been, not infrequently instances in which recovery begins rather promptly thereafter. If, however, the psychiatrist, on only partial evidence "takes sides" against that person against whom the patient feels hostile, then patient and doctor are likely to get much entangled in prolonged misunderstandings. One must be circumspect and just; with few types of patients is it so necessary to be just — and yet there is a strong temptation arising out of sympathy for the patient, to try to relieve his or her guilt-feeling by hastily taking sides. This constitutes one of the commonest stumbling blocks for the inexperienced and unwary therapist.

One of the current psychiatric problems of great importance is to establish a rational understanding of the well-demonstrated efficacy of electro-convulsive treatment in relieving the depressive state. This treatment can be most reliably depended upon to relieve the self-accusatory, agitated depression, in which the patient seems to be asking for punishment. It is somewhat too simple to suppose that E.C.T. works just by fulfilling the request for punishment, yet this conception seems to have some pertinence. The behavior of such patients before and after shock reminds one strongly at times of the small boy who has worked himself into a hostile, tense, rebellious mood, quite recalcitrant to threats, yet whose whole attitude may be changed abruptly, by prompt corporal punishment, into a mood of relaxed and friendly rapport. Also, to continue the analogy with the small boy, such treatment does not of itself solve any fundamental problems, but it may be a great help in establishing a preparedness for some thoughtful, freer discussion. To push the analogy one step further, the patient, as well as the small boy, may need further help in finding a face-saving, personally dignified and gratifying way of feeling significant and powerful without having to make such a tremendous issue of complete self-determination or self-control. Since there are
many depressed patients whose way of life had become unbearably ob-
sessive and self-demanding, in their prepsychotic maladjustment, lasting
improvement often depends upon the amelioration of that underlying
neurotic attitude. This means reaching some working compromise on
the omnipotence issue.

The clinical distinction between endogenous depressions and reactive depressions offers interesting psychodynamic implications. The
distinction is not so sharp as the textbook case material would indicate
and often hinges upon the perspicacity of the psychiatrist in comprehend ing (or failing to comprehend) the somewhat intricate bearing of
the patient’s attitudes and expectations upon the life situation. For
example, one nice old gentleman had suffered, over two decades, a series
of depressions, considered to be of the classical endogenous type until
it became apparent that each depression had occurred after some brilliant
success of his remarkably gifted oldest son. The series was climaxed at
last by a prompt and successful suicidal attempt immediately following
the receipt of news that the son had received an important appointment
in the government service in a field where the father had long prided
himself upon his superior knowledge and understanding.

In perceiving, evaluating and dealing with such suppressed jealousies, resentments, rivalries and other morally condemnable feelings, in
depressed patients, one runs considerable risk of shattering the patient’s
morale either by condemnatory or overprotective attitudes. Skill and
care in finding and using acceptable words for the discussion of these
touchy matters may spare psychiatrist and patient much distress. There
are nice distinctions between feeling hurt, resentful, hostile or vindic tive
—distinctions sometimes slurred over by a hasty psychiatrist but impor tant to the patient because of differences in moral gravity. Our language
is rich in substantially synonymous forms of expression, carrying, how ever, differing weights of social approval or disapproval, and the de pressed patient may be quite fastidious about these moralistic connotations.

Despite these special sensitivities as to terms implying guilt, it has
been notable in the author’s experience, however, that patients who have
depressive reactions show in general a rather limited appreciation of the
subtleties of language as compared with some who have schizophrenic
reactions. The schizophrenic seems to realize that there are many matters
not precisely expressible in words, and his language tends to be allusory,
metaphorical and indirect, even when he has a highly developed verbal
skill and is fairly well motivated to communicate, whereas the depressive
patient tends to expect of himself, and of others, that one should be able
to state flatly exactly what one means and mean exactly what one says.
The depressive type abhors metaphor and subtlety and requests direct,
blunt, even harsh speech, although characteristically inclined to add a
qualifying “but…” aimed at a rather pedantic accuracy. The schizo-
phrenic is more approachable through polite circumlocution and is a bit revolted at pedantic, school-master-like efforts to pin things down in one-two-three formulations. These considerations have much psychodynamic importance, since the psychiatrist ordinarily has to depend on interviews in which speech plays a large role, both for obtaining the clinical material for psychodynamic formulations and for exerting psychodynamic influence. Skill in adapting verbal means of communication to the special characteristics of the patient has much pertinence for one’s success or failure in these tasks. There are non-verbal means of communication which also have much psychodynamic importance but non-verbal phenomena are more difficult to record and to utilize in the formulation of dynamics. Interesting and significant observations and interpretations on posture during interviews have been reported by Felix Deutsch. (2)

In the foregoing discussion of psychotic depressive reactions, the central theme has been the patient’s high evaluation of self-control or self-determination (the omnipotence theme), with the various subordinate themes which grow out of this attitude. There are helpful analogies with the experiences of the young child in the phase of early toilet training and in life’s early struggles to achieve mastery. To speak frankly, however, one is not always able to fit all depressive reactions into one paradigm.

General Comment

As in dealing with schizophrenic reactions, so also in dealing with psychotic depressive reactions, the avenues of therapeutic approach to psychodynamic influence lie along the lines of the general dynamics of human nature, seeking to activate and to utilize the resources of the patient and to help him thereby to work out a more satisfying way of life with a less circumscribed emphasis upon these special issues. In this discussion, little emphasis has been put on highly specific mechanisms. The general principles discussed here are not confined to the so-called “functional psychoses,” but have pertinence for many patients for whom organic disease and toxic conditions are also significant factors in the etiology of a psychotic reaction. It is assumed that attention to psychodynamics should not inhibit the proper clinical study of each patient for all practical possibilities of correcting or ameliorating any organic factors.

It has not been my intention today to present an hypothesis of specific psychogenic etiology, nor a specific method of cure. I have carefully chosen to discuss the treatment of patients, not the treatment of those abstractions called psychoses. As persons, patients certainly have multiple etiology, not single causes, and they appear to be open to psychological influences, within a range determined in part by the limitations of native capacity, and native disposition, and in part by the degree of plasticity of attitudes which have been shaped by their psychological experiences in the struggle with life. Within these limitations, one may establish,
in some instances, a significant and useful personal contact with psychotic patients as persons; and in this relationship significant life issues can come into discussion. The psychiatrist may exercise helpful psychodynamic influence, through his understanding of some of these issues and his skill in helping to modify patients' personal attitudes about such issues. It is this working territory which has been the area of discussion today. To me it appears a large working territory, fascinating and rewarding. In today's discussion I have paid particular attention to certain issues having to do with the control of life; on one hand, a resentment of the control by others (and a reaction against the control by others) which happens to be an issue of great emotional import to many schizophrenic patients, and on the other hand, feelings of depressive anxiety and guilt and shame, concerning the inadequacy of one's control of one's own life-situation, which happens to be the central issue in many depressive reactions. The psychiatrist, in applying himself to the study of such life-situations and issues, in partnership with his patients, has many opportunities to be helpful.

BIBLIOGRAPHY

FOR MORE THAN thirty years health insurance has been discussed with increasing interest throughout the length and breadth of Canada. The Canadian Medical Association, labor groups, women’s organizations, health and welfare groups, and both Federal and Provincial governments have all at various times taken an active interest in advocating the adoption of health insurance. Of all the above mentioned groups however, the Canadian Medical Association, which now represents over three-quarters of the medical profession in Canada probably deserves the greatest credit, not only for being the first to discuss health insurance, but also for being the first to make a careful study of this subject and all its implications.

The main reason for the Canadian Medical Association’s great interest in health insurance can best be described in the words of Dr. A. D. Blackader, who in his presidential address to the Association in 1917 declared:

“Our profession must wake up to the fact that powerful influences are being exerted upon it from many quarters, and if it is to have the weight and influence in the public councils that it undoubtedly ought to have, it must speak early and clearly, and give its reasons and not delay until public opinion has crystallized into legal enactments. No other society or association of physicians in our Dominion can speak so authoritatively or so effectively as can this Association. In my opinion it is a duty which should not be shirked. But before we speak, conditions must be carefully considered. . . .

In England the physicians paid little attention to the measure, until prospective, or in some cases actual financial pressure led them to act, and then the opposition which they raised to many of its provisions led to a widespread impression that mercenary reasons, and not a just appreciation of the beneficent workings of the bill, influenced their action.

Let us avoid such a possibility in Canada, and be prepared to consider the measure from every point of view, and perhaps even to further its advancement by our own action, for I feel assured that with broad and friendly consideration from the profession, the details of an insurance scheme can be arranged so as to secure entirely dignified terms for our members, and to accomplish mutual benefit for all parties. I would, therefore, urge this Association to appoint a strong committee which
should include representatives from every province to give the matter their careful consideration, and to present a report upon all the important points to be taken to safeguard the true interests of our own profession.¹⁷

As stated above the Canadian Medical Association would serve the public and its own interest best by giving active leadership rather than showing a bystander’s interest in the Canadian movement for health insurance. It should be noted here that health insurance in some form or other had, by 1917, been instituted in many of the European countries and the scheme was spreading quickly, not only in Europe, but also in South America. The plan was bound to be advocated in Canada sooner or later, so Dr. Blackader was acting most wisely in the interests of his profession when he urged the Association to plan ahead for the day when health insurance would be instituted in Canada. The Canadian Medical Association, however, was unable to act upon his advice for some time because it was chiefly concerned with strengthening its position, and as a result its activities were chiefly scientific and administrative. Nevertheless, Dr. Blackader’s speech had aroused real interest in the subject of health insurance and from that moment forward, the subject has been one of deepest concern to the Canadian Medical Association.

Before making any further use of the term “health insurance” in this paper, it would be wise to define its meaning clearly, especially since health insurance is often considered to be synonymous with state medicine. The Committee on Economics of the Canadian Medical Association has already prepared excellent definitions of these two terms, and a careful analysis of both definitions will clearly indicate their obvious differences:

State Medicine is a method for the provision of health services in which all the individuals rendering the services are employed by the State and are usually members of the civil service. Funds are provided by the State by taxation, and the services are usually paid for out of general revenue. In most countries in which State Medicine exists the institutions rendering the services are also state institutions, but where they are not state institutions they render their services to the individual as a result of a contract with the state.

Health Insurance is a plan for the provision of medical care, using that term broadly, in which contributions are made into a fund, either by the individual himself or on his behalf, or partly by the individual and partly from other sources, in return for which he becomes entitled to the benefits provided under the plan. Health Insurance may be either voluntary prepaid medical care or compulsory prepaid medical care.¹⁰

In addition to the above two definitions a definition of the term Com-
Compulsory Health Insurance will serve to clarify the meaning of "health insurance" still further.

Compulsory Health Insurance is a form of health service in which the State participates and enacts a law under which all individuals in a specified area or class are required under the law to make certain contributions and become thereby entitled to participate in the benefits provided under the plan. In practice, this requires that the State make the necessary contributions for those who are unable to make their own.10

As indicated above, there is not only a difference in meaning between the terms "state medicine" and "health insurance", but there are also two distinct forms of health insurance, voluntary and compulsory. For the purpose of this article, however, the reader is advised that the term "health insurance" will be used to signify only the compulsory form of health insurance unless it is specifically described as being voluntary.

In Canada, owing to the provisions of the British North America Act, health insurance is primarily a provincial matter.4 This means that the Dominion government unlike most other national governments cannot pass health insurance legislation. So unless the British North America Act is amended or a compromise is reached, all health insurance measures, if they come at all, must arise from provincial legislation.

As stated above, many of the Canadian provinces and even the Federal government itself have at various times discussed the subject of health insurance. Some have even taken definite action to inaugurate a health insurance scheme. A few of these schemes will be mentioned briefly in the following pages.

The first active step toward the adoption of a health insurance scheme was taken by British Columbia in 1919 when it appointed a Royal Commission to investigate the subject. After a lengthy, but thorough examination the Commission presented its report to the legislature in 1928 recommending a State system and even outlining a plan, but nothing came of it.

The members of the British Columbia division of the Canadian Medical Association however realized that some form of health insurance for their province was inevitable, and one of them, Dr. J. H. Macdermot of Vancouver, wrote three noteworthy articles dealing with the subject.2 He too, like Dr. Blackader twelve years before, urged the Canadian Medical Association to give active assistance to any wise measure designed to combat disease and improve the health and medical standards of Canada. At about the same time the Committee of Publicity and Health Education and Public Health suggested at the annual Canadian Medical Association meeting in 1939 that a complete survey of the question of health insurance should be undertaken at the first opportunity. So once again the Canadian Medical Association was being urged to provide leadership in the study of this question.
In the following year, the Committee on Economics reported to the Executive Council that the members of the medical profession were generally unfamiliar with the issues involved. In order that the profession could provide an united front in this matter, it was deemed advisable that every member of the profession should be acquainted with the studies made by the British Columbia division and also with the main principles of health insurance which they should support. As a result the Committee on Economics was asked by the Council to prepare a report on what it considered to be the fundamental principles of a health insurance program. Meanwhile, many members of the Association continued to write articles and lead discussions on this question.

The next important step taken by the Canadian Medical Association with regard to health insurance occurred in 1932 when the Executive Council authorized the Committee on Economics to prepare a plan upon which health insurance should be based in any province. Two years later the Committee was able to submit a comprehensive report to the Council which proved of infinite worth. It detailed a plan of health insurance which sought to protect the interests of both the medical profession and the general public. The plan was immediately approved by the Association and the principles advocated proved to be the basis of all future schemes relative to health insurance. As implied above, the report created a great deal of interest among the members of the medical profession. However, before any action could be undertaken, it was felt necessary that the report should be carefully studied and that each of the provincial divisions should be given an opportunity to consider its contents and offer suggestions as to its improvement.

Meanwhile, a bill on health insurance, which again became the subject of considerable discussion by the Canadian Medical Association, was being drawn up in British Columbia. As a result of these discussions on the proposed legislation, the following resolutions were passed at the annual Association meeting in 1935.

1. That in the event of health insurance being initiated by any authority, in any section or area of Canada, the Canadian Medical Association endorse the principles governing a health insurance plan as laid down in the Report of the Committee on Economics as presented at the annual meeting in Calgary in June, 1934.

2. Whereas, it has been brought to the attention of this Council that the Ministers of Health of Canada, meeting in Ottawa, proposed that a Royal Commission be appointed to make a Survey of Canada in respect to the health services of Canada, Be it Resolved by this Council that we heartily approve of such a survey being made, and that the Commission be given the widest possible powers; and, furthermore, we respectfully submit that before any scheme of health insurance be enacted in
any part of Canada it would be the part of wisdom to see that such a survey has previously been made.

3. That a copy of the above resolutions be sent to the Provincial Medical Associations for their information, with a covering letter stating that, while the C.M.A. has neither the desire nor the authority at this time to make any pronouncement for or against health insurance, Council feels that the above-mentioned resolutions would be of definite value to any part of Canada, as indicating the opinion of Council with regard to the principles underlying any possible plan of health insurance.

In British Columbia itself the medical profession objected specifically to a number of provisions in the bill and strongly urged that a more intensive study of health insurance should be made, not only in British Columbia, but in Canada as a whole to determine the need for such legislation.

Despite the lack of support from the medical profession and other opposition the British Columbia legislature was able to pass a health insurance act in 1936. However, it was a modified version of the proposed 1935 bill, and proved to be even less acceptable to the medical profession. The bill was to become effective on a date to be fixed by proclamation. However, the opposition put up by the medical profession proved so strong that the Premier had to postpone its operation indefinitely. Thus the influence of the Canadian Medical Association was proven to be great indeed.

During the next four years the Canadian Medical Association was active in organizing several Committees to investigate and report on all medical service schemes in operation or contemplated in any part of Canada. A study was also made of several health insurance schemes in Europe as well as in Australia and New Zealand. In addition the Committee on Economics was instructed to ascertain the position of each of the provincial divisions with regard to the definition of a policy for or against health insurance. As a result of this latter survey it was discovered that there was considerable divergence of views between the Provinces. The Committee, therefore, advised the Association not only to make a detailed study of the question of health insurance, but also to begin a scheme of educating the profession with regard to medical economics. The Committee was particularly insistent that no attempt should be made by the Association to draft independently a plan of compulsory insurance. On the contrary, it hoped that the Association would, because of the excellence of its study and research in the field of medical economics, become the chief advisor to any government which wished to formulate a plan of health insurance. This opportunity was to be realized shortly.

In June, 1941, the Dominion Government, which had taken considerable interest in state medicine for several years, finally instructed
the Minister of the Department of Pensions and National Health to investigate the matter of health insurance for the whole of Canada. The intention of the Federal government was to study the matter of health insurance and to propose a draft for a bill which, later, might become the basis of provincial legislation on the matter. The Federal government still could not pass legislation on health insurance, but it could recommend and encourage the provincial legislatures to do so. Hence, with this purpose in mind, the Minister of Pensions and National Health called a conference of the Deputy Ministers of Health of all the provinces to meet in Ottawa in order to discuss the question of health insurance. Besides the provincial ministers mentioned above, various other interested groups were invited to sit in at the conference, and chief among these were selected members of the Canadian Medical Association.

As a result of this meeting a study of public health and medical services was undertaken, with the object of drawing up a health insurance plan for the entire country. It was not clear at first whether or not the medical profession or any other interested group would have the opportunity to participate in the formation of this new scheme. Nevertheless at the Association’s annual meeting in the same year, it was felt that some statement with regard to the attitude of the Canadian Medical Association toward the question of health insurance should be made, consequently the following points were agreed upon:

1. The Canadian Medical Association is in favour of any plan to make available for every Canadian the full benefits of curative and preventive medicine, irrespective of individual ability to pay, which at the same time is given at a rate of remuneration which is fair to the public and to the practitioners of medicine and others associated in the provision of medical care.

2. The Canadian Medical Association is not in favour of State Medicine — ‘a system of medical administration by which the State provides medical services for the entire population or a large part thereof and under which all practitioners are employed, directed and paid by the State on a salary basis or otherwise.’

3. The Canadian Medical Association considers as a necessary requisite for any plan of community medical service adopted, the unification of curative and preventive medicine in medical practice.

Soon afterward there was another meeting and the Executive of the Canadian Medical Association asked the Minister of Pensions for the appointment of a Committee from the Association to aid in the formulation of a plan of health insurance. As a result the Committee of Seven was formed, not only to render assistance to the Department concerned,
but also to see that the interests of the medical profession and of the public would be protected.

In February of 1942 an Order-in-Council established an Advisory Committee on Health Insurance with Dr. J. J. Heagerty of the Department of Pensions and National Health as chairman. The Committee of Seven was not represented on this Advisory Committee because it was considered "essential that medical and allied professions should be un­fettered, free to suggest, recommend, approve, disapprove, reject and withdraw from any health insurance plan that did not meet with their approval". Nevertheless, the Committee of Seven was known to be the most important body concerned in this scheme, so it was considered as the senior committee and no important steps were to be taken by the Advisory Committee on Health Insurance without its consent.

At the 1942 Annual Meeting of the Association the results of a questionnaire on the views of the members of the profession toward health insurance were announced and analyzed. One of the obvious conclusions was that the profession overwhelmingly supported the principles laid down by the Association in 1934, since 90 percent of the members voted for and only 10 percent against them. Despite the general approval of these principles the Committee of Seven and the Executive Council recommended a few slight modifications which would render them still more acceptable to the profession as a whole. The changes were adopted by the General Council and the revised principles became in a sense the Magna Carta of the profession on the subject of health insurance. These principles were made available to the Department of Pensions and National Health, and are as follows:

1. That in the Provinces where Health Insurance is established it be administered under an independent Health Insurance Commission, the majority of whom shall be representatives of organized medicine. There should be close co-operation between this Commission and the Provincial Department of Public Health with a view to making full use of preventive services.

2. That a Central Health Insurance Board and Local Insurance Boards be appointed, representative of all interested to advise the responsible administrative authority.

3. That the professional side of Health Insurance Medical Service be the responsibility of the organized medical profession through the appointment of a Central Medical Services Committee to consider and advise on all questions affecting the administration of the medical benefit.

4. That the question of the establishment of local areas for health insurance administration be left to the decision of the individual Provinces.

5. That the whole Province be served by adequate Departments of Public Health, organized where possible on the basis of
provision of individual health supervision by the General Practitioner.

6. That "Regional Medical Officers", to act as supervisors and referees, be appointed, paid and controlled by the Commission.

7. That medical care for indigents and transient indigents be provided under the Plan, the Government to pay the premiums of the indigents, who then receive medical care under exactly the same conditions as other insured persons.

8. That the Plan be compulsory for persons having an annual income below a level which proves to be insufficient to meet the costs of adequate medical care.

9. That the dependents of insured persons shall be included in the medical benefit.

10. That the only benefit under the Plan be the medical benefit.

11. That the medical benefit be organized as follows:
   (a) Every qualified licensed medical practitioner to be eligible to practise under the plan.
   (b) The insured persons to have freedom of choice of medical practitioner and vice versa.
   (c) The medical service to be based upon making available to all a general practitioner service for health supervision and the treatment of disease.
   (d) Additional services to be secured ordinarily through the medical practitioner:
       (1) (a) Specialist medical service.
           (b) Consultant medical service.
       (2) Visiting Nurse service (in home).
       (3) Hospital care.
       (4) Auxiliary services—usually in hospital.
       (5) Pharmaceutical service.
   (e) Dental service, arranged directly with dentist or upon reference.

12. That the Insurance Fund should receive contributions from the insured, the employer of the insured and the Government.
   (a) Payment of the premium of the insured, in certain proportions to be determined, should be made by the employee, employer and Government.
   (b) Where an insured person has not an employer or where it is not practical for the Government to collect from the employer, the Government should pay in for that insured person what would be the
employer's share as well as its own share of the premium.

c) Where the insured is "indigent" or has been out of work long enough to come without the scope of the provisions of the Act as relating to an insured employee, the Government should assume payment of the full premium.

13. That the medical practitioners of each province be remunerated according to the method or methods of payment which they select.

14. (a) That the Schedule of Fees in any Health Insurance Scheme shall be the Schedule of Fees accepted by the organized profession in the province concerned.

(b) That all Schedules of Fees be under complete control of the organized medical profession in each province.

15. That the contract-salary service be limited to areas with a population insufficient to maintain a general practitioner in the area without additional support from the Insurance Fund.

16. That no economic barrier be imposed between doctor and patient.

17. That the best possible standard of service be required of the professions and that the remuneration of the profession be consistent therewith.

18. That provision be made for clinical teaching material for medical schools; that facilities be provided for research work; and that time be allowed for post-graduate work.

19. That the plan be actuarially studied and approved before being adopted, and actuarially checked at periodic intervals.

20. That some plan be devised for the provision of pensions for medical practitioners.

Early in the following year, the Canadian Medical Association finally decided to make a definite statement of its attitude toward the question of health insurance and a special meeting of the Association was held in Ottawa for this purpose. The meeting was well represented and the following resolution was brought before the Council in plenary session and after some discussion was unanimously adopted.

Whereas the objects of the Canadian Medical Association are:

1. The promotion of health and the prevention of disease;
2. The improvement of health services;
3. The performance of such other lawful things as are incidental or conducive to the welfare of the public;
Whereas the Canadian Medical Association is keenly conscious of the desirability of providing adequate health services to all the people of Canada;

Whereas the Canadian Medical Association has for many years been studying plans for the securing of such health services;

Therefore be it resolved that:

1. The Canadian Medical Association approves the adoption of the principle of health insurance;

2. The Canadian Medical Association favours a plan of health insurance which will secure the development and provision of the highest standard of health services, preventive and curative, if such plan be fair both to the insured and to all those rendering the services.

It should be noted that the Canadian Medical Association stated that it approved the principle of health insurance, but that it would not necessarily commit itself to support any plan for health insurance for Canada. It would only support a health insurance plan which would provide a high standard of health services, and which would be fair to all concerned, including doctors and patients. Despite these reservations it was obvious that the members of the Canadian Medical Association expected the Department of Pensions and National Health to provide a plan which would meet with their approval.

Soon thereafter a special Committee on Social Security was appointed by Parliament to examine and report on a national plan for social insurance. The Canadian Medical Association appeared before the Committee and presented a brief, setting forth the views of the Association on health insurance. The Advisory Committee on Health Insurance also presented a report which included a Draft Bill on the subject, but there was no resultant legislation. The war and political exigencies combined to push the subject into the background and there it has remained for the past six years, little progress having been made toward implementing health insurance in Canada.

Nevertheless the Canadian Medical Association realized very well that it was only a matter of time before some form of government control of medical services would be introduced; therefore it was considered imperative that a policy of its own be formulated, and as a result of prolonged discussion, the following statement of policy was adopted by the General Council at Saskatoon just over six months ago.

1. The Canadian Medical Association, recognizing that health is an important element in human happiness, reaffirms its willingness in the public interest to consider any proposals, official or unofficial, which are genuinely aimed at the health of the people.
2. Among the factors essential to the people's health are adequate nutrition, good housing and environmental conditions generally, facilities for education, recreation and leisure; and not least, wise and sensible conduct of the individual and his acceptance of personal responsibility.

3. It is recognized and accepted that the community's responsibility in the field of health includes responsibility not only for a high level of environmental conditions and an efficient preventive service, but a responsibility for ensuring that adequate medical facilities are available to every member of the community, whether or not he can afford the full cost.

4. Accordingly, the Canadian Medical Association will gladly co-operate in the preparation of detailed schemes which have as their object the removal of any barriers which exist between the people and the medical services they need and which respect the essential principles of the profession.

5. The Canadian Medical Association hopes that the provincial surveys now being conducted will provide information likely to be of value in the elaboration of detailed schemes.

6. The Canadian Medical Association, having approved the adoption of the principle of health insurance, and having seen demonstrated the practical application of this principle in the establishment of voluntary prepaid medical care plans, now proposes:

(a) The establishment and/or extension of these plans to cover Canada.

(b) The right of every Canadian citizen to insure under these plans.

(c) The provision by the State of the health insurance premium, in whole or in part, for those persons who are adjudged to be unable to provide these premiums for themselves.

7. Additional services should come into existence by stages, the first and most urgent stage being the meeting of the costs of hospitalization for every citizen of Canada. The basic part of the cost should be met by individual contribution, the responsible governmental body bearing, in whole or in part, the cost for those persons who are unable to provide the contribution for themselves.11

At the present time it is expected that there will be a renewal of discussions on the subject of health insurance at the Dominion-Provincial Conferences this year. It is not likely however, that there will be any health insurance enactments passed for several years to come. Nevertheless, the Canadian Medical Association will be keeping in close touch
with the proceedings and possibly even participating in an advisory capacity.

Obviously, the Canadian Medical Association should be keenly interested in any measures which affect the interest of its profession. However, with regard to health insurance, the Association has shown exceptional interest and initiative. No doubt much credit is due to an alert and aggressive executive which has repeatedly been in the forefront in every battle where the issue of health insurance was at stake, but the Association as a whole has been quick to render its leaders able assistance. The Canadian Medical Association can well be proud of its policy with regard to health insurance. From the very beginning it has taken an optimistic viewpoint on the subject and at no time has it sought to discourage discussion or action by any group which sought the adoption of health insurance in Canada. It asked only that before any scheme should be introduced that the medical profession should be consulted as to the methods whereby the interests of both the profession and the public would be best protected. In conclusion it can be truthfully said that the Canadian Medical Association has been the “watchdog” of Canada, whenever health insurance has been the issue.

BIBLIOGRAPHY

NERVOUS AND CHEMICAL CONTROL OF RESPIRATION

JOHN AGNOS, M.D. '52

RESPIRATION IS THE mechanism that supplies oxygen and removes carbon dioxide from the body. During rest, the oxygen requirements of the body are fairly constant, but during periods of activity the oxygen requirements of the body and the necessity for removal of carbon dioxide increase. Consequently, some mechanism must be provided to adjust respiration to the oxygen needs of the body. These mechanisms may be divided into two large groups, nervous and chemical. Both of these bring about changes in respiration by acting through the respiratory centre.

The respiratory centre is a collection of nerve cells scattered in the reticular formation of the medulla. It consists of an inspiratory and an expiratory centre. The inspiratory centre is bilateral and in cats lies dorsal to the cephalic four-fifths of the inferior olive. This is also the probable location of the inspiratory centre in man. Finley has described punched-out lesions in this situation, in two cases of respiratory failure. Moreover, in the Minnesota epidemic of 1946, seventeen patients with bulbar poliomyelitis who died of central respiratory failure showed lesions at post mortem in the same location. The expiratory centre lies dorsal and slightly anterior to the inspiratory centre.

By virtue of their location these centres receive numerous afferents, some of which have as yet not been traced to their sources. Probably the most important sources of impulses to the respiratory centre are the lungs by way of the vagus nerve, and the pneumotaxic centre. These will be discussed later. Other afferent impulses reach the respiratory centre via cranial nerves V, IX, and X. Still others originate in pain receptors of the skin and mucous membranes, and in receptors in muscles and joints.

Efferents pass from the respiratory centre to the nuclei of cranial nerves V, VII, IX, X, XI and XII. These nerves supply the striated muscle of nares, mouth, jaws, pharynx, larynx and tongue, and the smooth muscle of pharynx, larynx and bronchi. In normal breathing (eupnea), only the muscles of the pharynx, larynx and bronchi are active but the other muscles may participate in forced respiration. Other efferents leave the respiratory centre, enter the anterior columns of the spinal cord, and terminate on spinal motor nuclei controlling the diaphragm, the thoracic and abdominal muscles, and the accessory muscles of respiration around the shoulder girdle.

A normal inspiration involves the contraction of the diaphragm, external intercostals, and pharyngeal, laryngeal and bronchial muscles.Expiration is essentially a passive process occurring as a result of the relaxation of the inspiratory muscles just mentioned.

The activity of the respiratory centre has been gleaned from experiments conducted on cats, dogs, and monkeys. Electrical stimulation of the inspiratory centre produces a maximal inspiratory effort which is
maintained for the duration of stimulation. Stimulation of the expiratory centre causes a maximal expiratory effort. It is evident that when one centre is acting the other is inhibited. If both centres be stimulated at the same time, inspiration results. This demonstrates the dominance of the inspiratory centre over the expiratory centre. This dominance may be accounted for by the fact that the neurones of the inspiratory centre have a lower threshold to both neural and chemical stimuli than the neurones of the expiratory centre.

At this point one might ask if the respiratory centre is capable by itself of producing the normal rhythmic respiratory movements. The answer is in the negative. Rhythmic activity is impressed upon the respiratory centre by the vagal inhibitory mechanism (Hering-Breuer reflex) and the pneumotaxic inhibitory mechanism. These will be discussed in the next section.

**Nervous Control of Respiration**

Four mechanisms are concerned here.

1. **The vagal inhibitory mechanism or Hering-Breuer reflex** serves to inhibit the inspiratory centre at a certain stage of inspiration and thus usher in expiration. This provides a periodic alternation between inspiration and expiration and imparts rhythm to breathing. The vagus nerve contains sensory fibres whose endings are stretch receptors located in the walls of the respiratory bronchioles, alveolar ducts, alveolar sacs, and alveoli. During the latter stages of inspiration these stretch receptors are stimulated by the stretching of the lung. Impulses are transmitted in the vagus to the nucleus of the tractus solitarius in the brain stem where a synapse is made. Thence they pass to the expiratory centre. When the barrage of impulses reaches an adequate intensity, the expiratory centre is stimulated. This centre inhibits the inspiratory centre, the inspiratory muscles relax, the chest decreases in size, the lung recoils because of its elasticity, and expiration results. As this happens, the impulses from the lung to the expiratory centre decrease, the inhibitory influence of the expiratory on the inspiratory centre is removed, and the low-threshold neurones of the inspiratory centre begin to discharge impulses once more.

2. The **pneumotaxic inhibitory mechanism** functions in a manner analogous to the vagal inhibitory mechanism. Both mechanisms impress rhythmicity on the respiratory centre. The pneumotaxic centre is a collection of neurones located at the cranial end of the pons. During inspiration impulses are transmitted from the inspiratory centre to the pneumotaxic centre (as well as to muscles of inspiration). The pneumotaxic centre relays these impulses to the expiratory centre. When the barrage of impulses becomes sufficiently intense, the expiratory centre is stimulated and causes inhibition of the inspiratory centre. The flow of impulses to the pneumotaxic centre stops, the activity of the expiratory centre declines, and the inspiratory centre is no longer inhibited. The
low-threshold neurones of the inspiratory centre begin to discharge impulses once more. During normal breathing this mechanism is subsidiary to the vagal reflex mechanism. When the vagus nerves are cut, however, rhythmicity of respiration is then dependent solely on the pneumotaxic mechanism. If the vagi be sectioned and the pneumotaxic centre be isolated from the respiratory centre (by transecting the pons) the animal develops powerful and prolonged tonic inspiratory movements and finally dies. If the vagi are intact and the pons is transected to isolate the pneumotaxic from the respiratory centre, respiration goes on normally. (Actually there is a slight decrease in rate and an increase in depth of respiration).

3. Higher centres also alter the activity of the respiratory centre and thus produce changes in respiration. Rate and depth of breathing can be altered by the will. In ordinary life, respiration can be modified in such activities as speaking, singing, whistling, crying, straining, etc. Electrical stimulation of certain cortical areas has also been shown to modify respiration in experimental animals. Various emotional states such as fear, surprise, grief, etc., may affect breathing.

4. Other reflexes

(a) Protective reflexes. Stimulation of almost any cutaneous sensory nerve may bring about a reflex change in respiration. Stimulation of cutaneous fibres mediating the sense of pain is an especially effective stimulus increasing pulmonary ventilation. On the other hand, pain from the pleura resulting from pneumonia, tends to decrease the depth and increase the rate of respiration.

Inhalation of an irritant gas like ether, reflexly inhibits respiration. Irritation of the mucous membrane of the nose may cause sneezing by stimulating the endings of nasal branches of the trigeminal nerve. Although coughing can be brought about voluntarily, it is usually reflex in nature, initiated by stimulation of the endings of sensory fibres of the vagus nerve in the larynx and trachea. All these reflexes are important in protecting the individual from injury.

(b) Reflexes from muscle and joint receptors. Movements of muscles and joints, whether active or passive, produce an appreciable increase in pulmonary ventilation. During exercise, therefore, part of the increase in pulmonary ventilation is due to reflexes originating in the moving muscles and joints. Other factors responsible for stimulating ventilation during exercise are increased CO₂ tension of the blood, decreased pH of the blood, rise in body temperature, and secretion of adrenaline.

(c) Reflexes from pressoreceptors. A rise in blood pressure has been shown to cause a reflex inhibition of respiration, by stimulating the pressoreceptors of the carotid sinus and aortic arch. A fall in blood pressure stimulates respiration. Under ordinary physiological conditions, however, the pressoreceptors do not appear to serve any respiratory function.
Nervous and Chemical Control of Respiration

Chemical Control of Respiration

In addition to the nervous stimuli, chemical stimuli also affect pulmonary ventilation. At the beginning of this paper it was pointed out that respiration was carried on at a rate and depth proportional to the oxygen requirements of the body. If the oxygen requirements of the body change, there must be a corresponding change in pulmonary ventilation. The change in ventilation is brought about by chemicals, like carbon dioxide and oxygen, which act on the respiratory centre itself, or, the chemoreceptors which in turn act on the respiratory centre.

1. Chemicals Acting on the Respiratory Centre

Under ordinary physiological conditions, the chemical regulation of respiration is achieved by the action of CO₂ on the respiratory centre. Very small increases in the arterial CO₂ tension bring about substantial increases in pulmonary ventilation. The respiratory centre is very sensitive to changes in the CO₂ tension of the arterial blood reaching the centre. CO₂ has a specific action on the cells of the respiratory centre. A decrease in the arterial CO₂ tension inhibits and, if sufficiently great, causes cessation of breathing.

An increase in the hydrogen ion concentration of arterial blood stimulates ventilation. A decrease in hydrogen ion concentration inhibits ventilation.

If the action of oxygen on the chemoreceptors is not taken into account (this is achieved by excising the chemoreceptors) a reduction in the oxygen tension of the arterial blood decreases ventilation. It does this by depressing the neurones of the respiratory centre. If the oxygen tension falls moderately, there is a transient phase of stimulation of respiration. The effect of increased arterial oxygen tension varies. In man it stimulates respiration; in the dog it inhibits it.

Fever or an increase in temperature, stimulates respiration. The assumption is that the frequency of discharge of impulses by the respiratory neurones increases as the temperature rises.

2. Chemicals Acting on the Chemoreceptors

The chemoreceptors are structures sensitive to changes in the composition of the blood. They include the aortic body and the carotid body. The former is situated in the concavity of the arch of the aorta; the latter is found attached to the beginning of the occipital artery near the carotid sinus. Afferent nerve fibres end on and between the epithelioid cells of these structures. The sensory nerve fibres from the carotid body enter the sinus nerve which is a branch of the glossopharyngeal. The fibres from the aortic body enter the aortic nerve which is a branch of the vagus.

A synapse is
made in the nucleus of the tractus solitarius and the impulses are relayed to the respiratory centre.

The value of the chemoreceptors to the intact animal in the control of respiration has not been settled. Most workers feel however, that they play little or no role in the regulation of respiration under ordinary physiological conditions. This is supported by two pieces of evidence (1) experimental animals with chemoreceptors removed, still retain the ability to regulate respiration so as to maintain normal $CO_2$ and $O_2$ arterial tensions, as well as normal blood pH. (2) Relatively large changes in pH and in $O_2$ and $CO_2$ tension are required to stimulate the chemoreceptors and effect a reflex change in respiration. The chemoreceptors may then be looked upon as an accessory mechanism, one that functions when the respiratory centre is depressed. The respiratory centre is depressed by anaesthetics (except urethane). Thus, during deep anaesthesia, there is decreased ventilation causing the $CO_2$ tension of the arterial blood to rise above a normal of about 40 mm. Hg and the $O_2$ tension to fall below a normal of 100 mm. Hg. Barbiturate and morphine anaesthesia causes a profound depression of the respiratory centre and it is the low $O_2$ tension of the arterial blood acting on the chemoreceptors that maintains the respiratory movements. Now, if pure oxygen is given to relieve the anoxemia, the effective stimulus on the chemoreceptors is removed and breathing ceases. Death has been known to result. This demonstrates the importance of the chemoreceptors as accessory mechanisms in the control of respiration. For the sake of completeness we will summarize the effects of various stimuli on the chemoreceptors.

Oxygen lack (anoxia) stimulates respiration. The chemoreceptors are less sensitive to a change in $CO_2$ of the blood than they are to anoxia. $CO_2$ excess causes an increase in respiration. $CO_2$ deficit inhibits respiration.

If the hydrogen ion concentration of blood increases, breathing is stimulated; if the hydrogen ion concentration decreases, breathing is inhibited.

Conclusion

Normal rhythmical respiration occurs as a result of the activity of the respiratory centre, pneumotaxic centre, and vagal inhibitory mechanism. Alterations in breathing can be brought about by the activity of the higher centres, reflexes from receptors in various parts of the body, chemicals such as $CO_2$ and $O_2$, and changes in pH and body temperature. These agents affect respiration by acting on the respiratory centre. They may act on the chemoreceptors, but under ordinary physiological conditions the chemoreceptors do not appear to serve any respiratory function. Their importance as a subsidiary mechanism, however, cannot be overemphasized.

BIBLIOGRAPHY


BRUCELLOSIS
W. N. DOWNE, '50

This disease, of humans and animals, is known by many other names viz., Malta fever, undulant fever, Mediterranean fever, infectious abortion of cattle. Classically, brucellosis is characterized by an undulating fever of varying duration accompanied by malaise, generalized aches and pains, fatigue and bouts of sweating. It is caused by bacteria of the Brucella group, the reservoir of infection being in animals (chiefly cattle, swine, sheep and goats). Infection in humans and animals results in an annual expense of approximately 90 million dollars to the people of the U.S.A. alone.

History
The disease was first recognized in the Mediterranean area and was described in 1814 by Burnett. In 1886, Bruce isolated the melitensis species from a human case. In 1895, Bang demonstrated the organism causing infectious abortion in cattle. However, not until 1924, as a result of work by Keefer in Baltimore, was it proven that the same organism caused infectious abortion in cattle and undulant fever in man.

Distribution and Incidence
The disease has a world-wide distribution occurring in endemic form in humans wherever large numbers of cattle, swine, sheep or goats are raised. A very comprehensive survey carried out in Iowa State, U.S.A., during the 1940-47 period, illustrated these points (1) approximately 70% of all reported cases were in the 20-50 age group; (2) 75% of reported cases had been in direct contact with farm animals; (3) the specific disease incidence per 100,000 population was 562 for veterinarians and assistants, 276 for packing-house employees, 59 for male farm workers, and only 4 for those persons not in direct contact with farm animals.

In 1940, 3,310 cases were reported in the entire U.S.A.; in 1947, almost double this number, 6,100 cases, were reported. Some authorities feel that only 10% of all cases are actually recognized and diagnosed at the present time.

Bacteriology and Immunology
The Brucella organism is a very small, usually non-capsulated and non-motile, Gram negative bacillus or cocco-bacillus. It is isolated with difficulty from humans and animals and grows slowly in culture media. Three species are recognized, B. abortus, B. suis and B. melitensis. Monovalent agglutinins are the most reliable aids in their differentiation.

Comparison of growth on media containing thionin and fuschin is usually helpful in differentiation, viz.:

<table>
<thead>
<tr>
<th>Species</th>
<th>Fuschin</th>
<th>Thionin</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. abortus</td>
<td>+++</td>
<td>-</td>
</tr>
<tr>
<td>B. suis</td>
<td>-</td>
<td>+++</td>
</tr>
<tr>
<td>B. melitensis</td>
<td>+++</td>
<td>-</td>
</tr>
</tbody>
</table>
While cattle are typically infected by *B. abortus*, swine by *B. suis* and goats by *B. melitensis*, almost any susceptible animal may be infected by any or all of the three species; however, swine are apparently resistant to *abortus*.

In man, the common portals of entry are the gastro-intestinal tract, skin and mucous membranes (possibly unbroken). Modes of infection in man are commonly:

1. Ingestion of infected milk or milk products.
2. Handling infected animals or flesh of infected animals.

The incubation period in man is 5-20 days depending on the portal of entry and numbers of invading organisms. One attack usually confers immunity against subsequent infection. Agglutinins are normally present in high titre by the 5th day after infection but may take weeks to develop.

**Pathology**

The *Brucella* organism has been isolated from almost all body tissues. This helps explain the protean manifestations of the disease. The cellular reaction in man and animals to *Brucella* infection is characteristically granulomatous (Carpenter). Tubercle-like granulomata often occur. Proliferation of the cells of the reticulo-endothelial system is a prominent feature. The organisms may be phagocytized and carried to all parts of the body. Intracellular growth of the organism has been noted and probably explains the difficulty experienced in treatment. Septicaemia is a common feature although difficult to demonstrate. Liver, spleen, gastro-intestinal tract, gall bladder, lungs, Fallopian tubes and lymph nodes are the most common sites of infection.

**Symptomatology**

Symptoms are generalized and localized.

A.—Generalized

(a) Acute Infection: May be of sudden or gradual onset. It varies in its duration and severity. The common complaints are of (i) fever, (ii) malaise, (iii) fatigue, (iv) sweating, (v) joint and muscle pains.

(i) The fever commonly rises to 103-105°F over a period of 5 or so days. There are afternoon peaks, and morning remissions. The latter are associated with sweating. The temperature remains at 103-105°F for 10-20 days and then rapidly drops to normal or near normal levels at which it remains for approximately 10 days. The fever curve repeats itself several times. Rarely, the fever is extremely high or very slight.

(ii) Malaise and (iii) fatigue may be the first symptoms noted by the patient. He tends to tire very easily and to feel "washed out."
BRUCELLOSIS

(iv) Sweating may be profuse and is often associated with morning remissions in the fever.
(v) Muscle and joint pains may be generalized with no evidence of pathology.

(b) Chronic Infection: The symptomatology is varied. There may be a protracted, low grade fever, or no fever. Fatigue, weakness, malaise, sweats, depression, irritability and weight loss are among the common complaints.

B.—Localized

(a) Blood: Septicaemia in the early stages of acute infection. A leukopenia with relative lymphocytosis and secondary anaemia is common, but not constant finding.

(b) Cardio-vascular: Ulcerative endocarditis, pericarditis, mycotic aneurysm, thrombophlebitis, epistaxis in later stages, and palpitations can occur.

(c) Respiratory System: Bronchitis is fairly common. Pneumonia is not uncommon but the organism is rarely demonstrable in the sputum.

(d) Gastro-intestinal Tract: Lesions vary from mucosal congestion to actual ulceration with haemorrhage. Constipation is common, diarrhoea rare. Appetite and digestion are not disturbed as a rule.

(e) Nervous System: Peripheral nervous system complaints include neuralgia, neuritis. C.N.S. lesions include meningitis, encephalitis and myelitis alone or in combination. Mental symptoms include insomnia, headache, irritability, depression, and rarely delirium.

(f) Ocular Manifestations: Corneal ulcer, iritis, chorioretinitis, optic neuritis, extra ocular muscle palsies, conjunctivitis and deep keratitis can occur alone or in combination.

(g) Ear, Nose and Throat: Epistaxis, pharyngitis, otitis media, mastoiditis, tonsillitis, nerve deafness can occur.

(h) Glandular System: Mastitis, a lymphadenitis which may resemble Hodgkin's disease, pancreatic degeneration or fibrosis, thyrotoxicosis have occurred.

(i) Skin: Lesions varying from macules to actual ulceration may occur.

(j) Urinary Tract: Pyelitis, cystitis, nephritis may occur and be confused with tuberculous infection when the Brucella organism is not demonstrable in the urine.

(k) Male Genitalia: Orchitis, epididymitis, prostatitis may develop.

(l) Female Genitalia: Salpingitis is fairly common and usually diagnosed as tuberculosis or gonococcal salpingitis. Abortion may result, but not as frequently as in animals. Sterility, irregularity in menses may occur.
(m) Musculo-skeletal System: Generalized muscle and joint pains are common. Spondylitis, arthritis which varies from transient attacks to actual septic problems, arthralgia, hydro-arthrosis, myositis, bursitis, osteomyelitis are among the reported manifestations.

(n) Spleen: Acute splenitis with splenomegaly occurs in up to 20% of cases; the spleen is very commonly infected to a lesser degree.

(o) Liver: Hepatitis with hepatomegaly is reported by some to be even more common than splenic involvement; it may progress to jaundice and cirrhosis.

(p) Gall Bladder: Acute or chronic cholecystitis may develop; chronic infection of the gall bladder may be very resistant to therapy.

Laboratory Tests

(a) The culture of blood or tissue specimens is the only method of making a positive diagnosis of brucellosis. It may be necessary to take several specimens before the Brucella organism can be demonstrated. This is a difficult diagnostic procedure for the general practitioner.

(b) The agglutination test is probably the next best procedure. A titre of 1:80 or more is generally considered to be a positive test. A positive test indicates present or past Brucella infection. Cross-agglutination can occur in the presence of P. tularensis, E. typhosum, Proteus X19, Vibrio cholerae, or Flexner bacillus. The agglutination test is positive in 75-95% of acute brucellosis cases, in 5-50% of chronic cases. If brucellosis is suspected and a negative agglutination test is obtained, keep repeating it. Never do an intradermal test prior to the agglutination test because brucellergin stimulates agglutinin formation.

(c) Intradermal Test: 0.1 cc. of brucellergin is injected and the test is read at the end of 48 hours. Oedema and erythema of diameter 2 cms. plus is a positive reading. This test is negative in 5.8% of persons actively infected. The intradermal and agglutination tests are good diagnostic aids for general practitioners.

(d) Opsonocytophagic Index: This test requires good laboratory facilities and gives a quantitative measure of specific resistance to Brucella infection.

(e) Sedimentation Rate: It may be within normal limits. In the presence of joint involvement, it is more often increased.

All laboratory tests are adjuncts to clinical experience, and should be repeated again and again if negative when brucellosis is suspected clinically.

Differential Diagnosis

Acute brucellosis must commonly be differentiated from influenza, rheumatic fever, tularaemia, typhoid and paratyphoid, malaria and infec-
tious mononucleosis. In chronic brucellosis the most important differential problem is the exclusion of a psychoneurosis.

**Diagnosis**

The practitioner must suspect brucellosis in any fever of undetermined origin. A history of contact with infected animals, or ingestion of unpasteurized dairy products, supplemented by clinical evidence will lead to most diagnoses. Present-day laboratory tests are of assistance in diagnosis.

**Treatment**

A.—Preventive Measures.

(a) Pasteurization of all milk and milk products.

(b) Extreme care in the handling of infected animals.

(c) Eradication of the disease in domestic animals.

(d) Disinfection of the excreta of infected humans.

B.—Supportive Measures.

An ample, nutritious diet with plenty of fluids, particularly if sweating is excessive.

C.—Symptomatic.

(a) Antipyretics and applications of cool damp cloths to reduce high temperatures.

(b) Analgesics for headache, muscle and joint pain.

D.—Specific.

Current literature indicates that the acute illness is best treated by (a) aureomycin—2 grams/day, orally, for 10-14 days, or (b) combined streptomycin and sulfadiazine—0.5 grams streptomycin intramuscularly q 6 h for 14 days; initial 3-4 grams dose of sulfadiazine orally followed by 1 gram q 4 h for 14 days.

Aureomycin has two advantages: (1) fewer toxic effects, (2) does not require hospitalization during treatment period. Aureomycin and streptomycin in combination may prove to be even more successful. The chronic illness has been treated successfully in some instances by aureomycin.

Vaccine therapy has been used with good success but has these disadvantages:

(a) Sensitivity develops easily.

(b) Treatment is more prolonged.

(c) Treatment is more irritating.

The oxidized vaccine developed by Foshay of Cincinnati produces fewer hypersensitivity reactions than does the ordinary heat-killed vaccine. If chronic infection in some solitary focus stubbornly resists treatment, and this focus can be identified and is amenable to surgery, then surgery is of value.
Summary

1. The true nature of brucellosis has only been recognized during the past 25 years.
2. Symptoms are very protean, since almost any body tissue may be infected.
3. Brucellosis should be suspected in any febrile illness of undetermined etiology.
4. Physical signs are few in number, or absent.
5. The clinical picture is the basis of most diagnoses.
6. The agglutination test and the intradermal test are the best diagnostic aids for general practitioners.
7. The disease most commonly occurs in persons who have been in contact with infected animals.
8. Aureomycin would appear to be the best therapeutic agent available at present.
9. Proper preventive measures could conceivably eradicate the disease.

BIBLIOGRAPHY

MIRROR FOR MAN
The Relation of Anthropology to Modern Life
CLYDE KLUCKHohn

Why is it that Canadian men, as a general rule, limit themselves to one wife, while a Mohammedan gentleman thinks nothing of carrying two or three? Why would Japanese airmen carry out suicide attacks upon American ships while such behaviour was unheard of among the Allied fliers? It is all part of the cultural tradition of a people. In this fascinating book, Dr. Kluckholm seeks to show how cultures differ with localities and peoples. Culture is the sum total of our customs and traditions, through which each generation preserves a continuity with the preceding generation.

In such a fashion, the author introduces his subject—Man. Anthropology is a study of man as a whole, including psychology, sociology, geography, medicine and many other subjects. Why do anthropologists spend their time digging out old bones and looking for trinkets of lost civilizations? What have such things to do with modern man and his problems? Understanding these primitive cultures which were not as complex as our present day life, enables us to better understand the homo sapiens of today. That the longest way round is often the shortest way home applies to anthropology. "Studying primitives enables us to see ourselves better" so that anthropology is really a great "mirror for man".

One of the most interesting chapters argues against the concept of races of men; for example we speak of the Jewish race, the Nordic race and the French race. Kluckholm very convincingly maintains that we over-emphasize the differences between these peoples. Although the cultures of these "races" are very different, actual physical or blood differences are slight or non-existent. There has been too great an intermixing of genes for any purity to exist. Man is definitely a mongrel species. Hitler used to typify the German as a tall, fair-haired, blue-eyed Nordic, but he and over half of the so-called "master race" were short, dark-haired, brown-eyed people. The author's aim is to show that there is a basic unity in mankind, which can be developed if we are willing to work for a joint understanding.

Mirror for Man provides a clear and simple presentation of human institutions and behaviour. It is a book which should be in every physician's library.

—GRAY, '52
THE CIBA COLLECTION OF MEDICAL ILLUSTRATIONS
By FRANK H. NETTER, M.D.
Ciba Company Limited, Montreal, 1949
222 pp.

Most medical graduates as well as students have become familiar during the past decade with the Ciba set of coloured plates on anatomical and pathological subjects. These have now been supplemented and published in book form. The artist is Dr. F. H. Netter.

The book is divided into four sections: the Lungs and Chest; the Gastrointestinal Tract; Male Reproductive Organs and Male and Female Mammary Glands; and the Heart and Aorta. Each section begins with good general, as well as specific illustrations of the normal anatomy of the region. These are clarified by brief, well written descriptions supplied by Drs. Buckstein, De Bakey, Glachickter, MacBrayer, Ritter, Rubin and Vest. Development and anomalies are dealt with as aids to a more complete anatomical knowledge. Following these are numerous descriptions of the more pathological conditions concerning each subject. For further understanding, Radiological and Histological plates are appropriately supplied. Bacteriological information is given in the explanatory legends of some of the pathological conditions.

Dr. Netter states that in preparing each of these plates, he has asked himself, "What do physicians and students chiefly want to know about this subject? . . . What will they be most anxious to have clarified in illustrations?" And he has worked accordingly. The illustrations are well chosen.

Perhaps this book's greatest use to the medical student is to provide a method for easy assimilation of many of the fundamentals of Anatomy, Physiology, Pathology and Histology. To the more advanced student and certainly to graduates, its exceptionally fine illustrations of numerous pathological conditions make it a valuable reference book.

—ROSS A. GRANT, '52

ALCOHOLISM

The Collected Papers of the Shadel Sanitorium - 1948
(No publisher mentioned in book), 208 pp.

This small volume consists of a series of papers concerning alcoholism. Specifically it outlines in detail the technique of "conditioned reflex" therapy in the treatment of chronic alcoholism. Essentially, the treatment consists of the injection of a nauseant drug, emetine, to elicit nausea. Just prior to the onset of nausea the patient ingests various liquors. This treatment builds up within the patient's mind an association between liquors and severe nausea, with the result that a distinct aversion toward liquors is gradually built up. From carefully compiled statistical data over a ten years' period, the workers report an unusually high percentage of permanent cures.

This short collection should be of undoubted interest to many segments of the medical profession. It deals competently and convincingly with one of the vital problems in contemporary life.

—GUS BUCK, '52
Abstracts

HEART MURMURS—PART II

WM. EVANS

Part I of this article has been abstracted in the preceding issue of this journal.

III. The Murmurs of Aortic Valvular Disease

Aortic Stenosis

Phonocardiographic studies of murmurs in the mitral area in this condition have shown that the clinical diagnosis may have to be corrected in two ways. Firstly, there must be an additional diagnosis of aortic incompetence when this has gone unsuspected clinically. This finding was present in every case studied by phonocardiogram, but exceptions have been found since. Secondly, where aortic valvular lesion alone was suspected the phonocardiogram showed twice auricular and mid-diastolic murmurs at apex proving mitral stenosis to be present. In the aortic lesion alone the systolic murmur usually started at the S line, marking commencement of ventricular systole.

Aortic Incompetence

The phonocardiogram frequently showed the presence of mitral stenosis which had hitherto been unrecognized clinically. In half the cases the origin was believed luetic and showed what might be described as an Austin Flint murmur; the sound tracing showed it was a presystolic murmur of mitral stenosis; the other half either showed no change in auricular or ventricular moities of the first heart sound, or the early diastolic murmur had lasted throughout diastolic into auricular systole.

IV. The Murmurs of Hypertension

The commonest murmur is an apical systolic murmur. Cardiac enlargement mainly contributes to its appearance. If a patient with elevated blood pressure shows a systolic murmur with more than average left ventricular enlargement, it is likely that the murmur arises from a source other than hypertension. The murmur starts in mid-systolic and later than the S line in the phonocardiogram so its mechanism is not mitral incompetence. Often an early diastolic murmur from relative aortic incompetence was recorded in the sound tracing although it could not be heard; however this graphic finding seems of secondary importance.

V. The Murmurs of Congenital Heart Disease

Patent Ductus Arteriosus

This murmur is continuous, lasting through systole and diastole, with intensification in early diastole where it covers the second heart sound and obscures the third heart sound also.

Pulmonary Stenosis

This murmur starts at the S line and lasts till the second heart sound which it embraces; it ends before the third sound. It appears earlier in systole than does the innocent pulmonary murmur.

Auricular Septal Defect

An early diastolic murmur from pulmonary incompetence followed by the third heart sound are characteristic phonocardiographic findings in this condition. When mitral stenosis is added (Lutembacher's syndrome) there are added auricular and mid-diastolic murmurs.
Ventricular Septal Defect

The systolic murmur commences at the S line and lasts longer, differing from the innocent parasternal murmur which starts in mid-systole.

Coarctation of the Aorta

The systolic murmur is one heard over the hypertrophied arteries of the collateral circulation, so it occurs late in systole. Less frequently the murmur comes from a greatly enlarged heart and aortic incompetence is usually present, thus the murmur is earlier in systole.

VI. The Murmur of Heart Block

The phonocardiogram shows the systolic murmur to start in mid-systole. Thus, the mechanism of this murmur appears to be connected with the muscular contraction of a much enlarged heart. The fact that the murmur begins in mid-systole suggests that it has a valvular origin.

VII. The Murmur of Anemia

The only murmur the phonocardiogram showed was one in mid-systole. A diastolic murmur was not once recorded. —P. G. Power, ’51

TREATMENT OF ERYTHROBLASTOSIS FETALIS BY EXCHANGE TRANSFUSION

ALEXANDER S. WIENER

This article deals with some 80 cases of erythroblastosis fetalis and their treatment by exchange transfusion. The material gathered and tabulated on these cases represents extensive work done by the author and his associates.

The latest and most commonly accepted rationale for Rh sensitization is based upon the formation of two types of Rh antibodies — a large bivalent antibody postulated by Levine et al., as an agglutinin, and a smaller univalent antibody known as a blocking antibody. Maternal blood of an Rh negative female may become sensitized by previous injections of Rh positive blood and/or due to an Rh positive fetus. One or both of these may cause the formation of both bivalent and univalent antibodies, but the univalent antibody alone, in the opinion of the author, is the singular cause of erythroblastosis fetalis, as only the univalent antibody is able to freely traverse the placental barrier.

Wiener postulates that the univalent antibodies from the mother tend to coat the red blood cells of the fetus and due to complement and conglutinin which are developed in the serum of the fetus itself, hemolytic anemia, or deep jaundice (icterus gravis) with actual clumping of the blood in the vessels occurs. Icterus gravis is rapidly fatal to the new-born due to impairment of blood supply to the vital organs.

The article points out the absolute need (based upon comparative tabulated results) for exchange transfusion in severe hemolytic anemia, and in icterus gravis. The infant's blood is replaced in exchange transfusion with blood compatible with the Rh antibodies fixed in the infant's tissue, i.e., Rh negative blood of a matched type.

Figures obtained and tabulated by Dr. Wiener and his associates indicate that erythroblastotic babies should be delivered prematurely and the best results of such premature delivery are obtained by medical induction and not caesarean section. It is also pointed out that the sex of the fetus has no bearing on erythroblastosis fetalis nor on its prognosis. The amount of maternal antibody titre is most important in the author's viewpoint, as the higher the maternal titre of Rh sensitization becomes, the greater is the passage of blocking antibodies to the fetus, and unless premature delivery is effected, there is a greater chance that the baby will be stillborn.

There is no doubt in the author's opinion and from the results he has tabulated that early treatment of erythroblastotic infants by exchange transfusion reduces the mortality rate markedly in these instances, and effectively prevents the appearance of neurologic complications which are so common following simple transfusion of these cases. —JOHN R. AUGUSTINE, '52