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MEDICINE—ITS MENTAL CLIMATE

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Mental climate is a phrase used by J. W. N. Sullivan to describe the ambience within which grow and develop the philosophy, the science, the art of an era or time. I trust you will forgive my vagaries in tracing those trends in medicine of our era which may reveal its mental climate since I believe that clinical investigation as a part of medicine grows and develops under the influence of this mental climate. We tend to spend too much of our time in air-conditioned rooms and fail to look at the weather outside.

What is a trend? It is the way or direction in which a process or subject is changing or progressing. It is not possible for a single observation to determine the trend; our day to day observations of the facts as they are will not reveal it clearly. Only by drawing a graph can we detect in which way the process is going. It is easier to see a trend in the past than in the present or the future and this is so of medicine as of other subjects. We have spoken so far objectively, as if we stood outside and were observing the trend in medicine. We, however, form part of that process throughout our lives. We recapitulate in our medical education, in part at least, the evolution of that living being which is medicine.

Growth and development is a property of life. Plants, animals and man each possess certain attributes in common. In the plant world the tree springs from the seed, grows, develops a trunk, branches, twigs, leaves, flowers—these are fertilized—then again the seed, and this process is repeated. In the animal world the individual starts as the fertilized ovum, develops, matures, procreates, ages and dies—continuing in its progeny. Man continues to exist not only by his physical continuance in his children, but by the transmission of his emotions and thoughts. He not only procreates, he creates.

All living beings are under the influence of their heredity and environment. Man is conditioned not only by his physical environment but by being taught to call things by certain symbols or words, which change their meaning in different lands and at different times. He is influenced by the religious, scientific, philosophical and social aspects of his day and all of these are conveyed to him through words written or spoken. However much he changes, there are certain fundamental emotions, ways of thought and concepts which keep recurring in each generation—the spirit of human nature—which the great philosophers, artists, and perhaps statesmen of each era interpret for their time. One of his fundamental urges is the desire for certainty which he never attains.

Let us see how medicine as a living being exhibits the attributes considered above, remembering that medical men themselves are the expression in their time of the development of the subject and recapitulate within their growth the growth of medicine itself. A botanical allegory of medicine may be drawn: Development begins in the seed of a fundamental science. Let us take the development of morphological pathology and gross anatomy; in the last century it grew into a huge tree, it specialized into many branches, it sheltered and shaded medical men from the sun of uncertainty. It flowered and continues to flower in its application to medical practice—cross fertilized, it formed part of the development of the newer trees of physiology, biochemistry and biophysics. Those seeds which fell close under the thick shade of its leaves failed to develop or were stunted because of the very protection which it offered from the sun of uncertainty. I have used morphological pathology as an example because its great development occurred in the immediate past of medicine and its influence on medical thought is still great. The same occurs in all sciences which are applied to medicine. Bacteriology, physiology, biochemistry and biophysics are forming part of the growth and differentiation of medicine of the present day.

What are the effects of this growing process on medical education and thought? The medical man, like other men, demands certainty, for which he constantly looks to the science of medicine. He also has a certain continuous medical spirit which must be satisfied, the personal relation to the patient. He seeks to satisfy this by practicing the art of medicine. This art is the practical expression of his application of the science of medicine as he knows it guided by the spirit which is within him. The medical teachers of 40 years ago had had their training in the science of medicine almost entirely in morphological pathology and bacteriology. There had been established a correlation between certain signs and symptoms in the living patient and the appearance of organs at autopsy. These correlations had been given labels, had been placed in pigeon holes and the teacher could only be certain that he had put the right label on by examination of the patient at autopsy or possibly at surgical operation. The teacher also possessed a clinical acumen derived from observation by means of his own senses. In addition in many instances as a successful family physician he considered his patient, whom he often looked after for many years, as a person. On the other hand in teaching he sometimes overemphasized the science of medicine and

came to regard a public ward case as increasingly interesting as the inverse square of the distance of that patient from the autopsy table. The students were taught on the wards, the outdoor was regarded as a means of discovering interesting cases for the wards and the student had no opportunity to see the art of medicine guided by its spirit as practiced in the teacher's office and when he visited the home.

To the next generation of teachers brought up in this tradition there came the increasing capacity to extend the facts gained by their own senses, by means of instruments and tests revealing the physiological and biochemical aspects of the processes going on in the patient. The number of facts available in any one patient increased and is increasing immensely. The growing trees of the various medical sciences and of medicine itself (as a sort of banyan tree which includes the others) developed more and more branches and twigs of specialization. On the one hand this growth lead to a greater likelihood of attaining intellectual certainty within the patient's lifetime, to a better recognition of disease as a physio-pathological process and, through the development of special therapeutic agents, to a greater capacity for prevention, amelioration or even cure of these disease processes. This increased the interest in the physio-pathology of disease, the facts attainable during life increased the interest in the patient apart from his proximity to the autopsy table and the tendency to therapeutic nihilism was overcome. On the other hand the interest in intellectual certainty led physicians in the teaching wards to the collection of more and more facts by more and more laboratory investigations. Twenty tests were regarded as equal to one autopsy for the attainment of certainty. The brilliant flowers of laboratory facts were admired without realizing that they only flowered because of their connection with the previous development of medicine and because they remained in truth connected to the history and the physical examination. Plucked from the parent stem they tended to wither. The spiritual continuum of medicine, the recognition of the person in the patient, the sap which begins in the roots, flows through the trunk, leaves and flowers of medicine and connects and gives life to the whole structure was not clearly presented to the medical student.

In this era, which extends to the present, the older clinician feels that the newer one is not a doctor because he relies too much on the laboratory. It seems to me that there is no essential difference between the facts obtained by the senses and those obtained by the extension of these senses. What remains essential is the capacity of the doctor from his experience of man and of medicine to obtain the facts regarding the abnormal processes occurring in the person, beginning with history, followed by physical examination and then, by use of his experience and acumen to observe what further extension of his senses are most useful—what laboratory tests are needed.

As mentioned before, one great difficulty in hospital practice is the knowing of the person, his emotional and social environment. This combined with the desire for certainty, as we have said, led to a tendency to the fac-

tualization and scattering of the patient all over the lot of specialism. A reaction against this is occurring among the public and, I think, among younger medical men and students. This again is reflected in the growth of new trees in medicine—psychiatry and social medicine. These subjects will provide new ways of obtaining facts about the patient and about his person, through the senses of the doctor, by history taking either by himself or by some other person. It should be remembered, however, that these facts that approach the person most closely need all the more to be integrated into the whole in the spirit of medicine, by the doctor be he specialist or family physician. The patient may be as badly factualized or scattered by these new disciplines as by the older ones and they are just as subject to the error of regarding the label or pigeon hole as the truth itself and not only a convenient arrangement of the truth.

I spoke some time ago about the importance of symbols and words to man and how the meaning of these words changes with time. The establishment of pigeon holes or labels, that is, the naming of disease entities, is done by men who observe, by the methods available to them in their day, the correlation between signs and symptoms in the patient and some reference standard either morphological at autopsy; or biochemical or physiological, which is a constant feature accompanying these signs and symptoms and regarded as being in some way casually connected with them.

There is sometimes confusion as to what constitutes a disease entity. For example the word amenorrhoea obviously describes a symptom and the nature of the physio-pathological process underlying this symptom may be varied. In amenorrhoea one may recognize a quantitative aspect, an individual may be just not menstruating and any form of therapy will be effective, or may be ovariectomized when these same methods of therapy may be ineffective. It is perhaps less generally recognized that diabetes mellitus is also the name of a symptom as it was originally labelled. The concepts as to its physio-pathological basis have varied and each succeeding generation of doctors has used this same label for different things, all of them desiring certainty and saying: only if the signs and symptoms can be fitted into the particular pigeon hole which I have established on the basis of my interpretation of the science of medicine may they be tagged with this originally purely symptomatic label. In the case of rheumatic fever, this disease entity has been under the morphological sanction of the occurrence of the Aschoff body, which means strictly that unless the patient dies rheumatic fever cannot be proven. However, prolonged clinical experience has established the probability that if the patient has a certain number of signs and symptoms the correlation is good enough to justify the label. On the other hand the capacity to say this is NOT rheumatic fever is more limited. There are many cases which are almost-not-quite rheumatic fever which may easily be less marked examples of the same physio-pathological process. To establish a pigeon hole and say that this fits and this does not fit is satisfying for certainty and enables the doctor to move thereafter in an

easy manner along the well worn grooves of recognized prognosis and therapy. However, if a new sanction or index of the physio-pathological process is found, capable of indicating the quantitative aspect of this process, its acceptance will be difficult because it will be said that it occurs in cases which are not rheumatic fever and the false conclusion drawn that, because the signs and symptoms do not fit exactly into the pigeon hole, they have no relation to the physio-pathological process underlying the pigeon hole or label. Let us consider the meaning of the word functional. When I was a student it referred to a type of disturbance not accompanied by detectable morphological change, or to the physiological and biochemical disturbances resulting from an organic lesion. It now is used as being equivalent to psychogenic and this in turn to inexplicable and to mean that no physiological or biochemical changes are detectable to account for the symptoms. You will see that this change does keep the meaning in the same relative position in the tree of medical growth. In the days of morphological sanctions it meant that no cause could be found; in the days when physiological and biochemical sanctions have been added it still means this. This changing use of words causes great confusion between medical men trained at different stages of the growth of medicine even in the same generation. It also leads to great difficulty in clinical investigation since the investigator's thinking is conditioned by the concepts of disease entities and of words, which he has learnt during his medical training.

The trend of medicine is not often seen by those taking part in it. The medical man himself grows, branches, puts out leaves, flowers and goes to seed—some grow and flower for a longer, some for a shorter period. He does this within the growth of medicine itself which continues in other aspects beyond him. He has learned at a particular stage of medicine, that of his undergraduate and post-graduate days, and it becomes increasingly

difficult for him really to build into his thinking concepts which develop years later.

Each generation of medical men applies in its time the science of medicine as known at the time of its training to the practice of medicine and in turn advances the growth of the subject.

There is thus the science of medicine—the methods of obtaining facts and knowledge of the meaning of those facts; the art of medicine, the application of these facts to actual practice and the spirit of medicine—that deep sense of relationship to a person, demanding sensitivity, fine perception, true sympathy and wisdom. It should be recognized that the art of medicine changes. The doctors of yesterday were not good doctors only because they used the methods available in their time. The mere use of modern methods of laboratory diagnosis does not make a doctor a good or a poor one. It is the failure to integrate the facts obtained by any method and the failure to remain conscious of the spirit of medicine which makes a poor doctor be he general practitioner, internist, surgeon or psychiatrist.

The problem of medicine today is how can the reintegration of the patient as a person be achieved in the welter of facts developed through the science of medicine, and in view of the fact that no one man can know any but a small fraction of them. Each doctor can remain conscious of the spirit of medicine, even though he be a specialist and each family physician can do his best in relation to the stage of his own growth in the art of medicine.

In these ramblings I have tried to indicate something of the mental climate in which medical men and therefore medicine have grown and developed. Part of this climate has been the same for thousands of years, part of it has only recently developed but all of it has its impact on the growing medical man and on medicine itself.