SCIENCE

VOL. LXXII

FRIDAY, JULY 25, 1930

No. 1856

Special Articles: An Attempt to Produce Mutations by the Use of Electricity: PROFESSOR W. R. HORLACHER. The Fecundity of the Oyster: DR. PAUL S. GALTSOFF. The Oil Absorption of Shell Eggs: T. L. SWEN- Son and H. H. MOTTERN Science News
Science News
SCIENCE: A Weekly Journal devoted to the Advance- ment of Science, edited by J. MCKEEN CATTELL and pub- lished every Friday by
THE SCIENCE PRESS New York City: Grand Central Terminal
Annual Subscription, \$6.00 Single Copies, 15 Cts.
SCIENCE is the official organ of the American Associa- tion for the Advancement of Science. Information regard- ing membership in the Association may be secured from
the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

THE ORIGIN, GROWTH AND SIGNIFICANCE OF THE MENTAL HYGIENE MOVEMENT¹

By Dr. WILLIAM A. WHITE

SUPERINTENDENT OF ST. ELIZABETH'S HOSPITAL, WASHINGTON, D. C.

OF the many mixed feelings with which I greet you, that which is uppermost at the moment is that at some day in the future, perhaps not far distant, those who follow us will look back upon this occasion and realize that it was a historic moment in the development of the movement for mental health. I myself personally have faith that this is so, and I have no doubt that many of you also have that same faith. Certainly those of you who have come from far distant lands must feel that this cause which we represent is one of no small moment.

It is fitting that this congress should have been so arranged as to open on this day, the sixth of May, which is the twenty-second anniversary of the formation of the first mental hygiene society in the world—

¹ Presidential address delivered at the First International Congress on Mental Hygiene, Washington, D. C., May 6, 1930. the Connecticut Society for Mental Hygiene, about the origin of which you have already heard. It is significant that the same group that was responsible for this Connecticut society a few months later namely, in February of the following year—brought into existence the National Committee for Mental Hygiene, and thus almost at once gave the mental hygiene movement a national complexion. And now at the end of these twenty-two years mental health has become of international significance and this congress is the outstanding indication of the spread of the mental hygiene movement over the face of the earth.

As you have just heard Mr. Beers say, this afternoon the Organizing Committee of the International Congress had its meeting in the Academy of Sciences Building and created an International Committee for Mental Hygiene, thus making this international movement permanent, crystallizing it in the form of an organization and insuring future international congresses at periods of five years, with intermediate meetings of smaller dimensions at such times and places as circumstances might indicate.

You have already seen and heard Mr. Beers. I am, however, moved to say in addition to what you have already heard, and perhaps to add to what you may already know, that it was the mind of Mr. Beers that originally conceived the mental hygiene movement and visioned its possibilities. For a hundred years patients had been leaving our public institutions for mental diseases with a sense that if they had recovered, they did not owe it to the way they had been treated. In numerous instances they must have felt outraged at the experiences they looked back uponat the cruelty, the callousness, the lack of sympathy with which they had been confronted during their confinement. But it was given to only one man who had had such experiences to have these memories of his treatment strike deep to the very core of his being, and there, instead of rankling and making him resentful, take root and grow and produce the fruit that is now the mental hygiene movement. He had been outraged as these others had been, but by some strange alchemy of his mind these outrages did not have the same effect. They stirred him to creative activity. They stimulated him to find the reasons for it all, to try to correct what he felt, not as personal animosity and antagonism to him, but as ignorance and stupidity, to try to see that those who followed him should be saved such experiences as he had passed through. This man, the genius of whose mind among a million saw opportunity where no one else had seen it for a century, this man, as you well know, is Mr. Clifford W. Beers; and that you may realize the full measure of his great work, remember that not only has he been willing these twenty years to devote his time, strength, everything that he had to the success of the mental hygiene movement, but that he has been willing to strip his soul and tell his experiences to the world in that wonderful book of his, "A Mind That Found Itself." It is because of his willingness to do this that I am able to speak as I do about him to-night. The movement as it stands to-day owes him a debt that it can never pay. Who can predict the extent to which future generations may in turn be indebted for what he has given the world, the suffering that will be obviated, the understanding and intelligent treatment that will be encouraged.

My friends, there are one million young people walking the streets of the United States to-day who, if the statisticians are able to tell us the facts about the future, are necessarily doomed to spend some of their time before they die in institutions for mental disease. It is only by appreciating such staggering figures that it is possible to understand the necessity for this movement throughout the world.

The way in which the mental hygiene movement originally came into being seems to me of the utmost significance. It was not the outgrowth of any philosophy started by a group who were bound to prove that the tenets of that philosophy were sound. It was infinitely more simple. Its objective-and its sole objective except for some broader formulations regarding prevention and research that appeared even in its first statements-was in its earliest days the improvement of the care of the so-called "insane." Mr. Beers was convinced by personal experience that this care was not what it should be, that its defects were due to ignorance largely, to lack of understanding the mental patient and of proper standards of care in institutions, and he set about in a constructive way to correct the evils as he saw them. As you see, a perfectly simple procedure. Certain things were wrong. What could be done to improve them? Here was a program with which no one could find fault. As soon as presented, it necessarily found agreement on all hands. And so the movement was launched in this way. The attitude of mind that animated those who were originally involved was one with which we are perfectly familiar. It has been the attitude through the ages of the physician. He sees things that produce unhappiness and suffering and he tries to correct them. He does not wait until all the scientific and philosophical questions that could be raised surrounding the particular situation are solved, nor does he alter his treatment according to whether he considers his various types of patient more or less worth while. Mental hygiene did not stop to solve the metaphysical, philosophical and theological problems that have always been associated with the study of the mind. It did not seriously consider such questions as the freedom of the will or the relation of body and mind or the moral factors that were involved in mental illness, but accepted man just as it found him, with his hates and loves, his hopes, fears, wishes, aspirations and ideals, and tried to find a better solution for his difficulties than he had been able to. It is precisely the attitude of the surgeon at the operating table to whom is brought a man with a bullet wound. He does not stop to inquire how the wound was received, whether in the commission of a crime or in the defense of his home, but proceeds at once to see how matters can be made better. He feels it to be his duty to give the best he has of his skill then and there to that particular patient without qualification. That is what the practice of medicine means to him and has meant down the ages. Back of this way of going at things lies the tacit assumption that human life is in itself valuable, that it is worth while to save it and that the way in which it is lived can often be improved with a little help.

Naturally it was not long until, as the result of the application of such methods to the mentally ill, it became quite obvious that the field of possibilities was considerably larger, and the program that had been found useful for patients in the public institutions for mental disease was subsequently modified and adapted to other types of individuals, such as defectives and criminals. The net result I do not need to tell you. Institutions for the mentally ill have been inestimably benefited by the mental hygiene movement, institutions for defectives probably to a less extent and prisons perhaps the least of all, but active measures are being taken to bring to these people also some measure of relief.

While matters were progressing along these lines the concept of mental illness was being enlarged to include a great many things besides the types that we were accustomed to see in public institutions. Not only were the minor psychoses and the neuroses included, but all forms of social maladjustment and even of unhappiness were seen to have mechanisms quite the same as the more serious conditions with which we were more familiar. The mental diseases of the public institutions were obviously end products of many years of bad mental hygiene, and so the question at once arose as to the possibility of cutting off the source of mental disease at its origin by getting back to the beginnings and correcting the difficulties at that point. So there developed the application of mental hygiene to the school and to the educational system. In the meantime various forms of maladjustment, in occupation particularly, had received attention, and industry was becoming interested in trying to effect a happier relation between the employee and his job and to prevent the great cost incident to a large turnover in industrial establishments. The army and the navy realized the importance of preventive methods and undertook the earlier recognition of mental defect and disorder, with a view to saving both the military establishment and the individual unnecessary expenditures of time and effort.

All these things and many more have happened with bewildering rapidity, and it has been next to impossible to keep up with the demands that have been made upon mental hygiene from all these various sources. In order to understand their significance more fully, it is necessary to remember that about the same time that the mental hygiene movement started, a very great change took place in the field of psychiatry. To the end of the nineteenth century mental disease had remained at the descriptive stage of development. It was still collecting and classifying its material. But with the beginning of the present century there came an effort to understand the meaning and significance of this material. Psychiatry attempted to find the causes, the tendencies, that lay back of the mental symptoms and that would, therefore, serve to explain their meanings, and in doing so it developed a technique of procedure that was analytic in type and served, as it were, the purpose of dissecting out the various psychological tendencies from one another so that they could be seen more nearly in pure culture and thus understood. This technique resulted in the development of an entirely new psychology based largely upon the emotions and upon those tendencies which lie beneath the threshold of consciousness, rather than upon the intelligence and those things of which we are clearly aware, which were more particularly stressed in the last century. Thus has grown up by analogy an anatomy and a physiology of the mind which disclose quite as multitudinous and complicated a set of structures and functions as we are all familiar with in the body. This new outlook, pregnant with such infinite possibilities, proved an enormous stimulus and has had much to do with vitalizing the movement for mental hygiene, which has taken over here and there as it could the various concepts from psychotherapy, psychopathology and psychiatry that it found useful.

While the spirit that animates the mental hygiene movement is in essence that of the physician, still methods of dealing with mental disorder and ways of thinking about it are in many respects quite different from those to which the physician has heretofore been accustomed. The several organs of the body have a different value from that which they had in the days when medicine was altogether the medicine of the body. Physical health was then the objective, even sometimes the physical integrity of a particular organ, in the mind of the specialist, whereas to-day we see the individual, not from the point of view of the integrity of his several organs, but as a social unit; the main significance of his several organs has shifted and, instead of presenting ends in themselves, they have importance in the scheme of the individual's life because of their ability to serve him, their capacity or incapacity to be of assistance in helping him bring to pass his ideals.

In all these ways mental hygiene has developed, and finally we see the movement separating out into three methods of procedure: first and earliest, a therapeutics based upon the control of the stimuli to which the organism is subjected by its environment; secondly, a psychotherapeutics that endeavored to change the individual from within, and thirdly, prophylaxis as applied to this great problem in preventive medicine. Of these three methods the first two are therapeutie and the third is preventive, and as time goes on the preventive becomes the most important because, as I have indicated, mental disease, when finally developed, has already had several years of incubation, and it is obviously economically more worth while to try to prevent its origin than to cure it after it has become a serious problem. Particularly does the preventive problem loom as important when we learn, as we have in this country, that mental hospitals, or at least the number of beds in mental hospitals, are increasing more rapidly than the beds in all other types of hospitals combined. The significance, therefore, of mental hygiene as a public health problem is second, at the present time, to none other in medicine.

Finally, however, mental hygiene has developed a positive aspect which bids fair, as I see it, to be its outstanding feature in the course of its future development. The problems of contagious and infectious and epidemic diseases, whereas they have not all been solved, are all in process of solution along with many others, and the net result is that the average length of life has been very greatly increased. Obviously it becomes of increasing significance that these lives that are to continue for so many more years should afford some measure of comfort to their possessors and be of some social value. Mental hygiene is on this account alone more important than ever before, and its significance can be seen to be gradually changing from one of the simple prevention of mental disease, which is a negative program, to the positive attitude of endeavoring to find ways and means for people to live their lives at their best. Medicine has long enough maintained as ideals freedom from disease and the putting off of death. It is time that these were replaced by ideals of living, of actual creative accomplishment. The art of living must replace the avoidance of death as a prime objective, and if it ever does succeed in replacing it in any marked degree, it will be found that it has succeeded better in avoiding death than the old methods that had that particular objective as their principal goal. Health is a positive, not a negative concept.

This change in the significance of the desirability of health which the mental hygiene point of view has brought about is a matter of the utmost importance. It means no less than the pointing of all educational problems toward man's own welfare and best interests. It means the revaluation of biological laws in terms of their human significance, and the understanding of the significance of emergent evolution in its application to psychological functions. It involves almost a complete about-face from the educational methods of the last century and opens up untold vistas of possibilities for the future. The future of the

evolution of man, it would seem, will be almost wholly confined to the evolution of his mind, and so far as we are able to determine from what we know of the mind and from our studies of the brain, the capacity for development of man's mind is to all intents and purposes infinite, and so with the new impetus from these new view-points of mental hygiene it is fair to assume that at some future date man may acquire as much knowledge of himself and control over himself as he has knowledge and control of his environment at the present time. A contemplation of such possibilities offers attractive opportunities for speculation which each may indulge according to his bent. But I for one verily believe that this century, which developed the world war catastrophe in its early years and led many to think that civilization itself was threatened, will ultimately prove to be the greatest of all centuries in accomplishments, particularly in the understanding of man by himself and in consequence a greater control of his destiny as it is worked out in the newly developed art of living.

I have indicated in the briefest possible way the simple beginnings of the mental hygiene movement and something of the course it has pursued in its development. It has finally come to branch out in so many directions that it is exceedingly difficult to gather them all into one all-enveloping concept. On the one hand, general medicine is appreciating more and more the psychological factors in disease. Some three years ago here in Washington at the meeting of the American Medical Association, the outstanding and most representative medical society in this country, its largest section on the practice of medicine devoted an entire afternoon to the subject of the emotional factors in disease, and I heard the internist and the cardiologist and other specialists tell of the large proportion of patients that they saw in their offices in whom they could find no disorder of the On the other hand, the social sciences are body. beginning to appreciate the psychological factors with which they have to deal. Social workers of various sorts are realizing more and more the significance of these factors. The criminologists are appreciating that radical differences are taking place in the concept of the nature and the significance of crime and of the best ways of treating criminals, and that these changes are taking place as a result of that sort of knowledge of the criminal that has been obtained through psychological means. The mental hygiene factor is evident in all directions, in medical problems and in social problems, not only in those that I have mentioned, but in many others. What are the mental hygiene factors, for example, that are involved in the multitudinous problems comprised in marital incompatibility, in venereal prophylaxis, in birth control,

in prostitution, in sterilization, in alcoholism and drug addiction, in the problems of old age and in chronic diseases such as tuberculosis and cancer, to cite only a few? What is the mental hygiene basis for such practical matters as the censorship of literature, of art, of the stage and of the movies? And in myriads of other directions how are we going to get any guidance unless we appreciate the fundamental psychological principles that lie at the basis of all these questions? And, finally, I am reminded that one of the most recent requests that has crossed my desk was a request to recommend a speaker to a distinguished group, meeting in the near future, who could discuss for them the bearings of mental hygiene on international relations. Surely the gamut is sufficiently ex-And if, as the Greek philosopher said, tensive. "Man is the measure of all things," it might be added that that part of man which measures is his mind. If twenty-two years ago some one had said of Mr. Beers's prophecy of an international movement that it was impossible, every one would have believed him, but there is one factuality of the human mind to which the psychologists have paid very little attention, and that is the factuality of bringing to pass the impossible. In this particular instance, Mr. Beers's impossible prophecy has come to pass.

In this brief survey I have indicated some of the outstanding points in the development of the mental hygiene movement, how in the first instance the trials and tribulations of Mr. Beers were converted by the alchemy of his mind into the mental hygiene idea and how finally this has developed in every direction until it has reached international proportions. I have briefly indicated how the thought of the physician has been gradually changed by the introduction of the concept of mental health, and I would add only a few more words along this line in closing, for I believe that the most significant change that mental hygiene is going to effect in the future will be a change in our concept of values as applied to human beings. I have indicated that the highest ideals that medicine had reached in the last century were the prevention of disease and the avoidance of death. These ideals, when applied in the mental field, were expressed in the well-known dictum, "A sound mind in a sound body." If, however, as I believe, living in order to avoid dying presents very little that is either worth while or stimulating as an ideal, so the concept of the sound mind in the sound body falls equally short of the truth, and in the same, namely, a negative, direction. The thought that I would like you to take away from the few words that I have said is that mental hygiene presents a positive program for life well lived, for mental health because of its values and not because of what it avoids. The value of life is measured by what we become, and so by the nature of the influences we radiate in our living. Life's values, from the standpoint of mental health, are not expressed in terms of the chemistry of nutrition or the integrity of the heart muscle or of any organ, but in terms of character, of man as a social being, of those effects which he produces on those about him, the enthusiasms he stimulates, that go reverberating down the ages translated by the personalities that trace back to the original source. This is a tangible form of immortality toward which every one may strive with some show of success, and in the striving get out of life the most there is in it for him. Perhaps I can express this ideal no better than in the words of Plato, who said over two thousand years ago: "My belief is, not that a good body will of its own excellence make the soul good, but on the contrary that a good soul will by its excellence render the body as perfect as it can be."

PERIODICALS FOR ELECTRICAL ENGINEERS

By Professor J. K. McNEELY AND C. D. CROSNO

IOWA STATE COLLEGE

THREE items of importance in the qualifications of a department for granting the degree of doctor of philosophy are a competent staff, adequate library facilities and funds and equipment. The lack of any one of the three will seriously interfere with thorough research work and render futile the research work of the staff and of the advanced graduate students.

This paper is concerned with the library facilities. It was thought desirable that the research publications at Iowa State College be checked over to ascertain the deficiencies existing. The question at once arose as to the standard to be used in making a list of the periodicals which should be available.

It was found that similar studies had already been made in the fields of chemistry¹ and mathematics.²

After some study, it was decided to count the references to periodicals in the following journals for the period from January, 1925, to June, 1929, inclusive.

¹ P. L. K. Gross and E. M. Gross, "College Libraries and Chemical Education," SCIENCE, 66: 385, 1927. ² Edward S. Allen, "Periodicals for Mathematicians," SCIENCE, 70: 592, 1929.