

tious disease has not spread among the children as easily as would have been expected. That after admission weight increases faster than in normal children and that hemoglobin also increases. That symptoms of auto-inoculation, as shown by increased temperature, are as a rule absent and that, in the opinion of the writers, the power of resistance and repair improves under these conditions.

It is hoped later to present a detailed study of certain cases of bone tuberculosis from these patients, but such a study cannot be entered on in the present paper.

REFERENCES.

- ¹ Burrell, H. L.: Surgical Tuberculosis, Trans. Mass. Medical Society, vol. xix, p. 303.
- ² Vulpius: Sanatorium Bhdg. der Chir. Tuberkulose, Deutsch Med. Wchsft., 1912, vol. xxviii.
- ³ Washburn, F. A.: Open-air Treatment of Patients.
- ⁴ Horwitz: Berck-sur-Mer, a City of Hospitals for the Treatment of Bone Tuberculosis, Journal Missouri State Medical Association, January, 1911.
- ⁵ Duplais, L.: Berck-sur-Mer, Brulein Freres-Berck-sur-Mer, 1905.
- ⁶ Truslow: The Out-door Treatment of Tubercular Joints, Long Island Medical Journal, September, 1907.
- ⁷ Willard, De F.: Sunshine and Fresh Air, etc., in Tuberculosis of the Bones and Joints, Journal American Medical Association, Jan. 18, 1903.
- ⁸ Taylor, H. L.: Fresh Air Work for Surgical Tuberculosis, Post Graduate, 25th Anniversary Volume.
- ⁹ Wilson, H. A.: Outdoor Life vs. Confinement in the Treatment of Bone Tuberculosis, Pennsylvania Medical Journal, January, 1906.
- ¹⁰ Willard, De F.: Open-air Treatment of Surgical Tuberculosis, Trans. Sixth International Congress on Tuberculosis.
- ¹¹ Ely and Whitbeck: Report of Three Years' Work at the Sea Breeze Hospital for the Treatment of Surgical Tuberculosis in Children, Medical Record, March, 1908.
- ¹² Bradford, E. H.: Open-air Treatment of Bone Tuberculosis at the Wellesley Convalescent Home, BOSTON MEDICAL AND SURGICAL JOURNAL, Jan. 18, 1906.
- ¹³ Adams, J. D.: A Report of Seventeen Cases in Open-air Treatment for Surgical Tuberculosis in Children, BOSTON MEDICAL AND SURGICAL JOURNAL, Jan. 18, 1906.
- ¹⁴ Lovett, R. W.: High Temperature in Tubercular Joint Disease, BOSTON MEDICAL AND SURGICAL JOURNAL, April 17, 1890.
- ¹⁵ Bowditch, H. F.: Growth of Children, 22nd Annual Report of the State Board of Health of Massachusetts.
- ¹⁶ Rotch, T. M.: Pediatrics, 5th edition.
- ¹⁷ Holt, L. E.: Diseases of Infancy and Childhood, 5th edition.

PSYCHOPATHOLOGY AND NEUROPATHOLOGY: THE PSYCHOPATHIC HOSPITAL AS RESEARCH AND TEACHING CENTER.*

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NEXT to genuine discoveries and generalizations—such in the field of *neuropathology* as *lumbar puncture*, the *plasma cell differentia* in general paresis, the application of *immuno-chemical tests* to the syphilitic group of mental disorders, the structural cross-light afforded by *cell-findings* in subjects dead with *dementia praecox* and *senile dementia*, or such in the field

of *psychopathology* as the *finer effects of drugs*, in the mental the standardization of *intelligence-tests*, the observation of characteristic *residual dementias* in different mental diseases, the definition of *apraxia* on the lines of aphasia, the *association-test*, the significance of *sex-factors*, the scope of *suggestion*—next to the making of concrete contributions in these fields stands the public duty of aiding and abetting such creations and greater creations in the future.

To stem the tide of syphilis, to wage war on alcohol, to counsel against the marriage of defectives, to generalize the insane hospitals, to specialize the general hospitals, to weed defectives out of general school classes, to open out the shut-in personality, to ventilate sex-questions, to cure all stutterers under forty, to perturb and at the same time reassure the interested public—these are infinitives that belong perhaps in a rational movement for mental hygiene. They are things the past has taught us more or less clearly to do. And in that sense the movement for mental hygiene is surely not much more than elaboration of the obvious.

I propose to maintain, however, that the mental hygiene movement is more than elaboration of the obvious, more than exploitation of the discoveries and generalizations of the past.

We must not merely execute the national will along the pyramidal tract of the National Committee and out the muscular nerves of innumerable local committees and social agencies. Somewhere back of the aforesaid pyramidal tract and its transmitters lies a field of intelligence. This field of intelligence we must electrify or magnetize or in some way energize—I have long been unable to do more than mix metaphors hopelessly when intelligence enters discussion—so that continually new ideas flow in. Here stands firm the National Committee like that departure-platform for the will known to anatomists as the precentral gyrus. Early to ripen—like that remarkable convolution—the National Committee can but send out available impulses. It must react upon those *convolutions*, if such exist, for *new ideas* and ripen them. But first, some might say, let the firm, present, available basis for action be rendered firmer, wider and deeper, more available.

Was it not an American professor who advocated that every high school boy and girl should dissect the brain of a shark? His wise though perhaps over-concrete suggestion was probably regarded in many quarters as a sample of American humor. Who can now be quite sure that the suggestion was over-concrete?

I should doubtless be equally before my time should I advocate that every prospective clergyman, lawyer, social worker, and large employers of labor should receive, *instead of a Junior and Senior year of this, that and the other*, a Junior and Senior year or simply *one year* devoted to the broad-gauge pursuit of *first- and second-year medical studies*, the fundaments of anatomy, physiology, hygiene, and pathology.

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For the present, at any rate, we can encourage prospective psychologists, social workers (among whom include rich persons who are likely to become trustees as well as politicians in the making), future medical students, and all other interested persons (including, I hope, lawyers who will some day try criminal cases, and clergymen who are consulted in the psychopathic scrapes of their practitioners)—these we can encourage *while still college students* to become acquainted with something of psychopathology.

These students should be encouraged to pursue in the community social service inquiries, eugenic inquiries, inquiries into individual personal difficulties and under supervision to extend a helping hand and brain to the victims of heredity and environment or—what is perhaps more common still—the victims of the interplay of both.

The supervision I advocate for these difficult but absorbingly interesting and illuminating concrete inquiries by college students is supervision by available schools for social workers or, where such arrangement exists, also by psychopathic hospitals.

In the medical school itself, I should of course *a priori* like to see various persons who had no idea of practising medicine, but who conceived that their practice of law, or their pursuit of divinity, or their participation in philanthropic and social work would be benefited by medical studies. These I should like to see privately or officially following juvenile court cases, minor wards, difficult adolescents, school-age stutterers, and deriving benefit from available intelligence-tests and motor-capacity tests under supervision of the local psychopathic hospital or its most available substitute. I would force nobody into such pursuits but would provide the opportunity. Opportunity must as ever act as a vacuum.

A university leader, with whom I talked over the conception of the unique general culture value of first- and second-year medical studies, thought the conception was hardly practical. Precisely, it isn't practical, it isn't precentral yet, it isn't in anybody's forehead. Education is new in people's foreheads. Yet, beyond question, conceptions of the cultural value of biology and its more and more autonomous branch, pathology, are conceptions bound to enter the collegiate head and finally dominate its will. In passing I will merely point out the curious fact that medical educators, conscious as they must be of the cultural value of fundamental medical studies, keep blindly insisting on four years of A.B. work, non-medical, instead of boldly asserting that the first two years of medical study are as good, as broad, as deep, as effective purveyors of culture as any conceivable Junior and Senior college-years, whatever their content. You see what I would personally like: it is to bring a man to his M.D. in six years from his high-school diploma, with an A.B. or

M.B. appropriately set in the middle years, bring him to a pair of hospital or research years at the age of twenty-four instead of twenty-six, and avoid overlapping the era of personal ambition, of matrimony, of money-making, with the era of of study and preparation for life-work. Incidentally my hospital graduate at 26 would be better off than the present hospital graduate at 28, having in my opinion all the qualities of culture, some time left in which to sweeten the routine of life with research, and the well-known advantages of youth in spying out the chance of making a eugenic, not to say an aristogenic, marriage.

Some say this is not practical, not knowing the terrible voluntaristic implications of that unfortunate word. It is so much easier—in pedagogy—to *quantitate* culture than—if such a word exists—to *qualitate* it. Eight years are *longer* than six, therefore *better*!

On the teachers' side in the medical school, I would advocate a fore-and-aft correlation of all those instructors dealing exclusively or predominantly with the nervous system, as those in neuropathology, neurology and psychiatry. Nor is any medical school ideally complete, as it seems to me, where the interests of the nervous system are upheld by *only one man*. Be he ever so good, the one man is not likely to fit the minds of all the likely students who might be encouraged to go into the field.

Nor are two men much better, if for example one takes a strongly structural attitude and the other a strongly functional attitude to psychopathological problems. Schools are then formed and irreconcilable attitudes fixed in favor of the mind-twist hypothesis on the one hand or the brain-spot hypothesis on the other, oblivious of the fact that both hypotheses are nothing but hypotheses.

No! the committee principle is best, and every medical school should provide on its faculty *at least three members* who are fundamentally and forever interested in the nervous system and who, spread over two or more years of the curriculum, may work together to effect a fore-and-aft or longitudinal correlation of studies in the nervous system in place of the horizontal intraannual correlation now afforded by the division system in vogue in certain faculties.

Every opportunity for revising the curriculum should be seized in order to improve, either quantitatively or better, qualitatively, the position of the neurological sciences. Thus Harvard, on a basis of 1000 hours of medical study, gives from 1.4 to 1.6% of its attention to mental disease. Is this a proper percentage? I do not know. But I doubt whether the curriculum has been properly studied to determine the point.

I am personally inclined to advocate the extension to psychiatry of the plan of so much practical work therein for each student at some time before graduation, the plan long followed in many medical schools of so much obstetrical work, so many urine, blood, gastric, fecal analy-

ses, so much anaesthesia, so much bandaging, so much fracture work, and the like. I should tentatively propose, for each student, the examination under supervision of two mental cases, one perhaps of insanity and one of feeble-mindedness and the attendance upon at least ten staff conferences (reports thereon) as held at the local psychopathic hospital or at the best available equivalent.

Such are detail questions. Their execution, or the execution of similar details, depends on the development and maintenance of a high-standard psychiatric clinic or psychopathic hospital in the medical center associated, if possible, with an out-patient department.

In this connection I can do no better than read to you some extracts from the reports of the State Board of Insanity of Massachusetts, which describe briefly the scope of a psychopathic hospital as conceived for one center, namely, Boston. I would ask you to remember that the characteristic local independence and differentiation of conditions in different parts of the United States would forbid the exact reproduction of such a clinic elsewhere as has been opened (in June, 1912) in Boston. Nor does the establishment of a psychopathic hospital (and this I would emphasize) abolish the necessity that every large general hospital must also take seriously its mental cases and begin to adopt modern methods of treatment therefor. In any event nobody can safely take bodily the idea of, say, the psychiatric clinic of the Charité in Berlin, or the pavilion type of clinic as in Giessen, or the Munich type, or the Ann Arbor type, or the Boston type, or the new type being built in Baltimore, and lay down any one of those plans (as with a rubber stamp) as suitable in Ontario, say, or Wisconsin, or New York. For certain conditions, I would insist, the Pavilion F type of clinic, as at Albany, may be best, or the grafted-on kind of institution found, say, at Göttingen.

For Boston, it was recommended "that the Psychopathic Hospital should receive all classes of mental patients for the first care, examination and observation, and provide short, intensive treatment of incipient, acute and curable insanity. Its capacity should be small, not exceeding such requirement.

"An adequate staff of physicians, investigators and trained workers in every department should maintain as high a standard of efficiency as that of the best general and special hospitals, or that in any field of medical science.

"Ample facilities should be available for the treatment of mental and nervous conditions, the clinical study of patients on the wards, and scientific investigation in well-equipped laboratories, with a view to prevention and cure of mental disease and addition to the knowledge of insanity and associated problems.

"Clinical instruction should be given to medical students, the future family physicians, who would thus be taught to recognize and treat mental disease in its earliest stages, when cura-

tive measures avail most. Such a hospital, therefore, should be accessible to medical schools, other hospitals, clinics and laboratories.

"It should be a center of education and training of physicians, nurses, investigators and special workers in this and allied fields of work.

"Its out-patient department should afford free consultation to the poor, and such advice and medical treatment as would, with the aid of district nursing, promote the home care of mental patients. Its social workers should facilitate early discharge and after care of patients, and investigate their previous history, habits, home and working conditions and environment, heredity and other causes of insanity, and endeavor to apply corrective and preventive measures."

How far have we been able to realize this plan, which had been expressed in general so far back as the annual report of the Massachusetts Board of Insanity in 1902?

The Psychopathic Hospital was formally opened in June, 1912, and now we may say that the forms of its major branches of activity are under way, *i.e.*:

1) the *reception hospital*, expressing what has been briefly termed the *clearing-house function* for the insane and alleged insane of the city of Boston and, so far as temporary cases and voluntary commitments go, also of the remainder of the metropolitan district,

2) the *observation hospital*, for more protracted "research" cases and certain cases held throughout their period of recovery,

3) the *laboratories*, hardly as yet under way except as regards routine work which is being held up to general hospital standards,

4) the *out-patient department*, with special emphasis on follow-up work, on intelligence and motor capacity tests in the feeble-minded, and on the diagnosis of vocal disorder.

Reviewed from the standpoint of the mental hygiene movement, our beginning of work already seems to show

a) the need of a *mental sanatorium* for the rural regime of borderland cases and the quiet pursuit of psychopathological investigations

b) the need of a campaign to *deal with uncured syphilis* in our population, classifying as such subjects with positive Wassermann serum test

c) the need of *resident alienists in many reformatories and training schools* (experience with referred cases)

d) the advantage of *associating mental out-patient departments and dispensaries with hospitals having wards* to which difficult cases may be referred requiring several tests not well carried out in a single day

e) the advantage of *associating social service work and work in eugenics*

f) the value of *centrality and accessibility of the institution* as readily securing capable offi-

cers and a succession of internes desiring to round out their other hospital work with some psychiatric work.

g) the value of *mixing normal with abnormal patients* in such wise that no patient is aware on *prima facie* evidence that the next patient is insane

h) the value of a *medical atmosphere*, that is to say, the atmosphere characteristic of a *general hospital*, which conveys the impression to each patient that he and the others there are regarded as medically sick rather than as legally insane.

As relatively novel proposals brought out by our work from the mental hygiene standpoint, I would mention two points. First, the majority of patients in a mental out-patient department (and a type to stimulate the social agencies to send) are children and adolescents. By consequence, we chose as head of the out-patient service a trained pediatrician, Dr. W. P. Lucas, who had distinguished himself in previous work at the Boston Dispensary by the establishment of a *clinic for adolescents*. Secondly, it has actually proved feasible for us to go out into the community (on the basis of old general and children's hospital records) and bring to the clinic for examination and counsel a considerable number of patients early damaged by syphilis, meningitis, and what we regard as encephalitis. Their parents who might not resort to clinics for years or not at all are often exceedingly glad to get the benefit of these examinations. Here is a program of positive mental hygiene worth considering.

I have little time left in which to discuss research, in whose performance and fortunate issue we are all so fundamentally interested. You will see, however, the significant, well-nigh indispensable part played by the psychopathic hospital in this deliberate endeavor, *not merely to permit research, but to foster research*, whether medical, hygienic, or otherwise profoundly social.

A warning, as ever, must be extended to those who stand by to tell us that Aristotle is *passé*. If it happens not to be Aristotle, perhaps it is Hippocrates, or Galen, or Pinel, or Griesinger, or Krafft-Ebing, or Charcot, or Janet, or Wernicke, or Kraepelin, or Freud who is already *passé*. I have even heard that anatomy is a forlorn variation, that there is a new psychology greatly superior to the old, that there is little in physics but much in chemistry (or vice versa).

We have an examiner who sometimes fails to convince others that Binet-Simon tests are all some state them to be. He has, however, apparently solved the problem of why one boy was a school "terror" by showing his perceptual capacity to be irregularly defective; he can possibly be taught by the auditory route; it is hopeless to work with that particular boy's visual imagery.

The democratic atmosphere of a psychopathic hospital, where there is more than one inde-

pendent thinker, where (God willing) there should be at least three independent thinkers, is good for the patient. Tug-of-war discussions over abstractions and discussions based on the confidence that deductive principles exist are abrogated. All have faith in the concrete, and belief that the only logic is inductive. Students, whether lay or medical; social workers, whether voluntary or trained; nurses and attendants; friends of patients; and patients themselves get infused with the democratic, many-brained system of attack on our problems, where the fortunate issue is anybody's issue and is bound to be concrete.

In fine, the task and opportunities of a psychopathic hospital—medical, hygienic, social—intellectual, moral, religious—educational, legislative, philanthropic—are really too good to be true, when rendered in the aforesaid concrete. They are likely to take one's breath away, at least that of your humble servant, the director of one.

Abstract.—Theoretical and practical objects of the mental hygiene movement. That movement more than elaboration of the obvious. Some training in fundamental medical sciences desirable for all educated persons. Supervision by schools for social workers of lay workers in the medical field. Lowering the age of graduation in medicine desirable to leave time for a little research before money-making. Improvement advocated in the correlation of studies of the nervous system in medical schools. Every medical faculty should have at least three members fundamentally interested in the nervous system. Practical work in psychiatry. Proper medical school arrangements for psychiatry greatly dependent on the existence of a psychopathic hospital. No one model possible or desirable. The new Boston arrangements. Branches of activity of the Psychopathic Hospital in Boston. Some practical conclusions already arrived at since opening the hospital in June, 1912. Novel conclusions: importance of pediatrics in relation to psychopathic hospital work (e.g. Lucas' Boston Dispensary *Clinic for Adolescents*), possibility of prophylactic work in cases on older hospital records as having had nervous disease. Research should be, not merely permitted, but fostered.

SOME ASPECTS OF LABOR MECHANISM AT THE PELVIC BRIM.*

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IN presenting this paper tonight it is my aim to call attention to certain aspects of the mechanism of labor, particularly at the pelvic brim, which seem to me to have not received the emphasis their very practical importance merits.

* Read before the Boston Surgical Society.