to any medical man or institute for special disease when a return of 10 to 20 cases can be provided.

REFERENCES.

¹ *Studies in National Deterioration*. I, On the Relation of Fertility in Man to Social Status. Drapers' Company Research Memoirs. (Oulau and Co.) ² Report on certain Cancer Statistics. By Karl Pearson, F.R.S. *Archives of the Middlesex Hospital*, vol. ii, 1904.

The Lumleian Lectures

ON

INSANITY, ITS CAUSES AND INCREASE.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

By GEORGE HY. SAVAGE, M.D., F.R.C.P.,

CONSULTING PHYSICIAN AND LATE LECTURER ON MENTAL DISEASES, GUY'S HOSPITAL.

LECTURE I.

THE FORMS OF INSANITY.

I HAVE approached this lectureship with mixed feelings. I began with pride at my selection; this was followed by doubt as to the subject on which I should lecture, and lastly a feeling, which still exists, of dread lest I should fail in my endeavour.

But the nature of my life's work indicated something connected with insanity, and as at present on every side the question is being raised of the increasing numbers of the insane, I felt that though the field has been partly occupied by both medical and lay writers, yet perhaps I might add something from my own special experience, and I shall depend on this rather than on voluminous statistics.

I admit that there is considerable increase in the insane, but I find no reason from this fact to dread the future of the race. I shall hope to demonstrate that much insanity does not depend on material brain disease, but has reference to the complexity of society and the numerous social misfits which occur. Many people are treated as insane because they are out of harmony with their surroundings.

I purpose dividing the lectures as follows: First, I wish to consider what is really included in the term "insanity"; next, what are the chief conditions leading to this disorder; and lastly the statistics as to its increase. I shall refer largely to the reports of the Commissioners in Lunacy of England, Scotland, and Ireland, and I am fortunate this year in having the Irish appendix to the report which is chiefly concerned with the increase of the insane in Ireland.

I shall therefore first consider the forms of insanity. I do not intend giving any fresh classification, for I still feel, with Hughlings Jackson, that we alienists have to be like market gardeners rather than botanists—we have no natural orders, only grouping for convenience.

First, unsoundness of mind often occurs without anything which can be called insanity arising. The medical man looks for material brain change, the lawyer looks for responsibility, while society only considers whether a man is dangerous to himself or to society. There can therefore be no common pathological basis for the various classes. There are many cases of insanity in which I maintain that there is no ground for suspecting any detectable material change in the nervous system.

Several able articles have appeared recently in the *Times* on the increase of insanity, but the writer does not seem to appreciate that insanity is not a definite disease. It is a negation, and certainly no one line of treatment will avail for the various cases. As so much really depends on the conditions, it seems that treatment must, in many instances at least, depend on the change of these rather than on *materia medica*.

Hence, though careful clinical observation in homes or hospitals will advance knowledge of insanity, yet too much must not be expected, and the general physician who has no practical—that is, living—knowledge of the insane will not advance knowledge much. Statistics prove that the recovery-rate has not advanced with the progress in treatment so far.

To make more clear one of my points, I say the medical standpoint has been medical; the legal, responsibility; and the social, social danger. The vernacular recognizes what many seem to overlook. Thus some are spoken of as being "beside themselves," others "out of their senses," while only some are said to be "out of their minds"—that is, unreasonable.

There is no fixed standard of sanity; a man is sane or insane in relation to himself, so that what is insane conduct in one man may not be insane conduct in another. Some persons are out of place and others out of their time. Thus, a fine strong youth was described by his father as being suitable for the middle ages as a knight, or for America as a cowboy, but quite unsuited for the twentieth century in England. Again, the conduct suitable to youth may connote insanity in old age. Some persons, notwithstanding their education, fail to fit into their surroundings, and are treated as aliens.

Insanity, again, is often a question of degree; a man may be parsimonious and be reasonable, but he may develop into a true miser with the hermit's habits, and become a social danger, but even with such it does not follow that they are all to be treated alike. The liberty of the subject depends on the length of the purse, so that while one recluse may have to be sent to an infirmary or asylum, another with wealth need not be so treated.

Normal habits and healthy feelings may grow into morbid. The miserly habit is one example, but the normal family feeling may by overgrowth produce insane jealousy, and such growths vary in degree, but that they are very common I know, and that they add to the chronic insane in asylums I also know.

Probably many will say there must be something wrong in the quality of brains which so readily get out of order. This may be so, but I fail to believe that any ordinary hospital treatment is going to alter them much. I shall as much expect to have a pathology for religious conversion as for social perversion. We have, so far as insanity is concerned, to judge by the conduct, not by any definite nerve signs.

It is therefore necessary to recognize that similar conduct may depend on various and different mental states. We may have exaltation of ideas occurring in general paralysis, in mania, in toxic states, in delusional insanity, and with certain slowly-growing states which I have called "governess disease." The chief interest of these lectures, I presume, however, will centre on what may be called the common forms of insanity. I shall later point out that I believe strongly in a neurotic type or constitution, and that those who have this are the most likely to produce any increase among the insane; and I shall have to consider what evidence there is of the increase of the neurotics, and what causes may give rise to such increase.

Is it possible for any one to become insane? Are there some persons so constituted that no storms will upset their nervous or mental balance? I say that though any one may become delirious, and, given certain conditions, any one may become a general paralytic, yet I believe that there are very many who could never become subject to delusional insanity or suffer from recurring mania or melancholia. I say here that there is increase among the senile insane and general paralytics. As to alcoholic insanity I shall go into details later; but alcoholism produces neurotic states, and also causes insanity in many forms, but I do not think there is at present any evidence that alcohol is causing increase among the numbers of the insane. Insanities of special types, with particular effects on the nervous system, follow toxic influences other than alcohol, and I shall have to study these in my second lecture.

The next part of my subject is more open, I suppose, to debate. I have already said there are many cases in which the insanity depends on the person being out of relationship with his immediate surroundings; I now say there are many who are temporarily out of such relations; they may be said to suffer from functional disorder. Sutton maintained that function is the cause of organization, and to a great extent I maintain that that is true, that morbid habits may lead to distinct morbid results, that bad habits may lead to bad brains. Many social misfits and cases of incompatibility are thus to be classed, and the so-called hysterical cases and cases of sudden cure

after prolonged mental disorder are to my mind to be looked upon as functional.

There are such things as morbid mental growths; in some cases these are easily traced. Take the man who, having early made a fortune, but having no other than money-making instincts, retires only to find all things are vanity; he dwells more and more on his feelings and becomes a confirmed hypochondriac. Such developments may either lead to permanent mental incapacity, or, on the other hand, may leave the rest of the mind as clear as ever, so that there is what used to be called a monomania; I prefer to call such mental growths, for they are neither invading nor destructive to mind generally.

Similarly, that conditions are responsible for some forms of insanity is seen in the cases in which a daughter, devoting her life to an invalid mother, after the death of her mother begins to analyse her conduct and her feelings during her prolonged watching, and in the end comes to the conclusion that she did not do all she might to have saved her mother, and slowly a delusion arises of having killed her mother. The loving wife also may slowly pass into the suspicious one, and end by having delusions as to the honesty or constancy of her husband. I have met doctors' wives who became so jealous of their husbands that they made their lives unbearable while they were attending other women for midwifery.

All these and thousands of others provide material to show how normal feeling may pass into delusions, and I do not ever expect to find a seat in the brain for such ideas. I accept much that Dr. Hughlings Jackson has written in his *Factors of Insanity*. He points out the effects of removal of the higher spheres of control, and the letting loose of the lower, more organized, parts of the nervous system, and he also points out that not only is there loss of control, but there is a morbid demonstration often of these lower parts, what I might call a fresh morbid growth arising from the lower nervous strata.

From these more complex questions I now pass to the consideration of the more typical forms of mental disorder. We have the mental disorder chiefly marked by loss of the higher control. This varies in symptoms according to the degree of the defective control, and may range from hysteria to acute mania, and parallel to this we have to consider similar states depending directly on toxic agents. Anything which will produce delirium may produce mental disorder of a delirious type—that is, with hallucinations of the senses—and may have the general aspect of chronic delirium. I do not find any evidence that there is any material increase in the numbers suffering from mania.

Melancholia, again, ranges from hypochondriacal self-consciousness to profound stupor. This has more frequently a more material nervous basis, which may be primary or secondary to other morbid states in the body, the brain being badly served by one or more of its organic servants. I believe there is an increase in the numbers of melancholic patients admitted into asylums as well as an increase in the numbers of suicides due to mental depression. Many forms of insanity seem nowadays to tend rather to nervous exhaustion and mental depression.

As to dementia and its various grades, there appears also to be an increasing tendency for mental disorders to lead to premature mental weakness; and the fact that a term, "dementia praecox," has become common is looked upon as evidence that in young persons there is an increasing tendency to permanent breakdown after acute attacks of insanity of any form.

As I have already said, there is an increase in the numbers of those suffering from general paralysis of the insane, as well as of those who are affected with senile mental disorders. I believe there is an increase among the simply neurotic and that neurasthenia is increasing in frequency, and that these conditions are at the root of a large number of cases of delusional insanity, chronic recurring insanity, and paranoiac insanity which fill our asylums.

In conclusion, I have to repeat that there is no such disease as insanity, that it is a negation, and depends more on social than on medical conditions. Finally, that certain forms are due to direct brain decay, others to brain intoxication, and others to morbid habit or morbid surrounding, or they are the natural but morbid mental growths occurring in certain unstable individuals.

MEMORANDA: MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF PREMATURE BIRTH OF TWINS.

The mother in this case was a primipara, aged 23. Her last menstruation prior to conception commenced on November 3rd and terminated on November 8th, 1906. She first felt fetal movement early in April, 1906, and expected confinement about August 10th. The actual date of birth was June 1st. Both children were females, and the survivor weighed one week after birth 1 lb. 14 oz., and on October 6th 6 lb. 10 oz.

The exciting cause of premature birth was haemorrhage, most probably accidental. The infant first born lived only a few hours. The second child, much smaller, was born without interference, and followed smartly and easily after the first. This freedom from long-continued pressure gave the child a chance which the first had not, and the difference in appearance as regards the chances of life was at once apparent. The second cried spontaneously on delivery; the first lay limp, and could only be got to cry faintly on slapping the back. As regards treatment, the room was kept about 70 degrees, and hot water rubber bottles were used, one on either side and one at the feet. The child was rubbed all over with cod liver oil. It took the breast from the first day, the supply of milk being abundant and of good quality. Since June 30th the weight has steadily increased, but from June 7th to June 30th nothing was gained.

The following table shows the weekly increase. The infant continues to thrive.

BORN JUNE 1ST, 1906. WEIGHT ON JUNE 7TH 1 LB. 14 OZ.

Date.	Nett Weight.	Increase.	Weeks Old.
1906.	lb. oz.	oz.	
June 30th	1 14	—	4
July 7th	2 0	2	5
July 14th	2 2½	2½	6
July 21st	2 7	4½	7
July 28th	2 12	5	8
August 4th	3 2	6	9
August 11th	3 8	6	10
August 18th	3 14	6	11
August 25th	4 3	5	12
August 31st	4 12	9	13
September 8th	5 2	6	14
September 15th	5 8	6	15
September 22nd	5 12	4	16
September 29th	6 3	7	17
October 6th	6 10	7	18

The case seems worth reporting in view of the weight and age of the child at birth, and the successful issue without incubation treatment. I should like to hear what is the earliest recorded instance of survival after immature birth without incubation treatment.

Cambuslang, N.B.

H. S. MARTYN, M.B., Ch.B.

THE ADMINISTRATION OF ETHYL CHLORIDE.

A few months ago¹ I gave my objections to the present commonly-accepted method for the administration of ethyl chloride, and explained my mode of introducing it directly into the bag in a gaseous form. Whilst the method indicated was a great improvement on the old, certain details remained unsatisfactory. Among these were the difficulty of controlling the valve of the container so as to be sure that the vapour and not the fluid was being poured into the bag, and there was also occasionally some difficulty in finding the small slit when an additional dose was required.

To obviate these disadvantages I have had a thick-

¹ BRITISH MEDICAL JOURNAL, May 12th, 1906.