QUANTITATIVE ESTIMATION IN PSYCHIATRIC DIAGNOSIS.

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Accurate diagnosis of psychiatric conditions has always been a difficult problem, and, to meet it, various systems of nomenclature have been devised. These have been based on aetiological, symptomatological and even prognostic factors, yet, in the practice of psychiatry in the Army, none of the systems in current use have been particularly satisfactory and the task of fitting things into the official nomenclature of disease has been very difficult indeed. Very often one meets conditions which do not conform to the nomenclature and yet have to be pigeon-holed into it. This meant that the label given to a disease in many instances bore very little resemblance to the disease it was to indicate. The reasons why this should be so are probably numerous, but there is one which forcibly suggests itself and that is, we are trying to make use of a nomenclature which has become out-dated. Prior to the introduction of Kraepelien’s nosology, there was chaos out of which he created some sort of order and it was something that psychiatrists of his day understood. They were able to give a fairly accurate description of those cases which came under their care, such as patients in civilian mental hospitals. Unfortunately, we have still to use the labels of Kraepelin for the various forms of psychiatric breakdown one meets in the Army.

Adolf Meyer then introduced a new term—“the reaction type”—and while this was a most useful aid in the understanding of the nature of mental illness, it did not indicate the quantitative element. The saying has been attributed to Kretschmer: “It is not enough to say that a man is suffering from Manic-Depressive Psychosis, or Schizophrenia, but we should also indicate how much of each is present.” This is reminiscent of our house-surgeon days, when we told the “chief” that a patient had appendicitis and he would say, “That is not enough; I want to know what kind of appendicitis and the position of the appendix.” Surgical nomenclature has kept pace with these demands. The quantity factor in psychiatry is just as important, yet our present system makes a very half-hearted effort to deal with the problem.

In order to regard all mental illness in the Meyerian light of a reaction of the total individual, some basic knowledge of the personality must exist. The most accepted classification of personality is that of Jung—the introvert and the extrovert—but these types are seldom “pure”; in fact, they are mostly
mixed. If the population were graded according to their personality types, we should get the usual biological curve, with by far the largest grouping in the centre, consisting of personalities with a fairly intimate mixture of introvert and extrovert. If personality can play an important part in the genesis of mental disease (and many believe it does) then the extreme introverts and extreme extroverts seem to be good candidates and their illnesses would assume a "pure" form—the classical case one sees in the civilian mental hospital and adequately catered for by Kraepelin. But the mixed mass in the centre are also liable to attacks of mental illness, especially under the stresses of military service and all that entails. Is it reasonable to assume that their symptomatology would be mixed? Mixed symptomatology is frequently met in Service psychiatric casualties and these cases are drawn from the large middle group—the average recruit.

The mixed case has given the Service psychiatrist much food for thought and much anxiety as to the finding of a suitable label. Various "dodges" have been resorted to; such as "Schizoid type", "with depressive features," the word "predominantly," or even an honest N.Y.D. To add to the confusion, there has often been found an overlap between neurotic and psychotic symptoms, although this has been mainly between the anxiety states and manic-depressive psychosis and between hysteria and schizophrenia [1].

Again, the presentation of these mixed symptoms was not always constant. The clinical picture would vary, sometimes from week to week, in the same case, and the A.F.I. 1220 adequately demonstrated the doubt in the mind of the psychiatrist. Very often, prior to the patient's discharge from hospital, a new A.F.I. 1220 was made out to remove the evidence of the fluctuation of the patient's mental state! As most of my time was spent in busy Military Psychiatric Hospitals, mainly overseas, the "mixed symptomatology problem" presented itself most insistently and a more accurate form of labelling was considered essential, if only for one's own peace of mind.

Quantitative factors in medicine are still expressed in adjectives, e.g. mild, moderate, severe. Even in the laboratory numerals are not always used and +++ is still used for 3. It was decided to use numbers to describe the quantitative element in psychiatric diagnosis and thus try and give a more accurate picture of a soldier's mental state. The difficulties raised by such an experiment are almost overwhelming and many have still to be solved, but a working arrangement can be arrived at. What had to be decided on first was (a) whether Kraepelinian nosology was worth retaining, and (b) whether a more accurate form of labelling could be built up from it.

Kraepelin described the "classical" cases, therefore it was considered possible to modify his labels with numbers, so that they would describe the ordinary mental reactions one meets in Service psychiatry. The next problem one is faced with is to arrive at the number of divisions a mental illness can be split into and each division still be clearly distinguished by the clinical mind. This number was arrived at by trial and error. At first it was considered, and probably rightly so, that the more quantitative divisions, the more accurate the diagnostic label, but it was soon found that any number above 6 led to a
false degree of accuracy which was often beyond clinical assessment. Each case was then described by a fraction as follows:—

\[
\text{e.g.} \quad \text{Manic-Depressive Psychosis} \quad 5 \\
\text{Schizophrenia} \quad 3
\]

But, as has already been stated, the patient's mental state often fluctuated and an attempt was made to cater for this fluctuation by using three numbers on each line: the first to indicate the maximum amount, the third the minimum, and the second the clinical mean of the case—this number to be written larger than the others or printed in heavy type. This “vignette” should then be flanked on either side with the period of observation and letters used for the dominant clinical features such as D for depression, S for schizophrenia. The vignette would read as follows:—

\[
15.8.44 \quad D \ 5 \ 4 \ 2 \quad 20.10.44 \\
S \ 3 \ 2 \ 1
\]

An interpretation of this formula would be: The patient came under care on 15.8.44 and was discharged on 20.10.44. During this time the clinical picture was a mixed one, the depressive element being the dominant one and at one time it was almost a pure depressive psychosis. Schizophrenic features were however always present, at one time quite markedly, but on the whole not to the same degree as the depressive features.

As so often happens in cases occurring overseas, there is a complicating organic or toxic element such as malaria, dysentery, sandfly fever, vitamin deficiency, or even head injury. This could be added to the vignette with the letter O; and a formula could read thus:—

\[
15.8.44 \quad D \ 5 \ 4 \ 2 \quad 0 \ 3 \quad \text{(bac. dysentery)} \quad 20.10.44 \\
S \ 3 \ 2 \ 1
\]

If, as is so often the case, there are no facilities for long-term supervision, a simple fraction such as that first given with the date of examination is quite sufficient to indicate the degree of the mixed nature of the case. This method repeated at each examination and dated is a good guide to the progress of a case through the various channels of evacuation.

Here are two cases to illustrate its use:—

(a) L/Cpl. R. P. aged 25. Service four years.

On 26.2.46 he was admitted to hospital complaining of pains in the head and insomnia since his return from L.I.A.P. two months previously. He then admitted that God spoke to him and that he had taken to the Bible but was generally reticent about his religious thoughts. He was diagnosed as a case of schizophrenia. On 3.3.46 it was noted that “he sits in a chair clasping the Bible between his hands and talks in a depressed tone of voice saying that it was God’s influence he was alive to-day.”

19.3.46: Confused and disorientated and appeared to have auditory hallucinations and was emotionally blunted. He insisted he could cure bad eyesight by means of his spittle, but was too confused to elaborate.

6.5.46: Very little change and was started on course of Electrical Convulsions (E.C.T.). Began to improve but was always sullen, solitary and difficult of access and at times offensive and argumentative.

17.7.46: Has been very violent and had to have repeated doses of sedatives. Vividly hallucinated and completely lacking in insight. Regarded as a case of paranoid schizophrenia.
12.8.46: Became morbidly depressed. Full of ideas of guilt and sin and preoccupied with suicidal thoughts. Started on second course of E.C.T.

13.9.46: Has responded well—Cheerful and co-operative. Conduct reliable and working well in open ward. At times rather facile but personality is reasonably well integrated.

Suggested vignette:—

26.2.46 D 6 4 1 15.9.46
S 5 2 0


Family History.—One brother who was P.o.W. for five years was admitted on repatriation to Carstairs Military Hospital suffering from a psychosis. He recovered after a course of E.C.T. and was discharged after three months. No other neuropathic heredity elicited.

Personal History.—Was always bright and cheerful and fond of sports.

History of Present Illness.—17.1.46: While on troopship on return from L.I.A.P. he reported sick to M.O. with the complaint that he was worried about his masturbatory habit which failed to give him any sexual satisfaction. He was tearful, extremely anxious and believed his companions were annoying him.

18.1.46: Said people were always looking at him.


20.3.46: On admission: Mute and stuporose and very depressed looking. Takes food satisfactorily but incontinent of urine. Following visit of mother 23.3.46 he became emotional, agitated and restless and expressed depressive thoughts: “Why don’t you cut me up and experiment on me—I’m ready to die.”

8.4.46: On examination: He talks a little but is essentially uncommunicative. Shrugs his shoulders with an air of hopelessness and asked “Are you suffering because of me?” He would not elaborate. Psychomotor retardation is evident, but there is no indication that he is hallucinated. Started course of E.C.T.

12.5.46: Bright and cheerful. Plays football—conduct is reliable. E.C.T. discontinued.

20.5.46: Beginning to relapse. Facile and childish. Tends to wander off and make inconsequent remarks to the N.A.A.F.I. girls. Confused—“There’s something funny going on.” Probably hallucinated. The clinical picture is now a schizophrenic one.

Suggested vignette:—

17.1.46 D 5 3 1 20.5.46
S 5 3 1

Discussion.

It is true that the basis of these vignettes is mainly speculation, but then, so is that of most of psychiatric nomenclature. The factorial aids are not in the least comprehensive, but it has been found that a vignette with dates very often gave a more reliable picture of a man’s mental state and progress than could be gauged from an ordinary psychiatric report and was also more accurate than the nomenclature in use. No attempt has yet been made to deal with the neuroses in this way but these too lend themselves to the above method. The continued use of these fractions can be most helpful from the prognostic angle, e.g. a loading of schizophrenic deterioration which increases with the duration of the illness would be unfavourable. Various other factors can be dealt with in this way, such as Paranoid Colouring, Dys-symbole, Dyskinesis [2] but an assessment of their part in the basis of personality would be necessary first. The possibilities of its development in psychiatric diagnosis.
are almost overwhelming and its use would have to be restricted to prevent it becoming too complicated and thus adding to the confusion at present existing.

**SUMMARY.**

(1) An attempt has been made to aid the quantitative estimation of psychiatric disorders.

(2) A vignette has been described which incorporates much of the information contained in psychiatric reports.

(3) In Service psychiatry it would ensure a continuance of a uniform type of assessment throughout the whole of a patient’s time spent under psychiatric care.

**REFERENCES.**