

Nosological Models in Psychiatry

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The botanical classifications

“Nature, in the production of diseases, is uniform and consistent; so much so, that for the same disease in different persons the symptoms are for the most part the same; and the self-same phenomena that you could observe in the sickness of a Socrates you would observe in the sickness of a simpleton. Just so the universal characters of a plant are extending to every individual of the species; and whoever (I speak in the way of illustration) should accurately describe the colour, the taste, the smell, the figure, etc. of the single violet would find that his description held good, there or thereabout, for all the violets of that particular species upon the face of the earth.”

This statement, written at the end of the 17th century by Thomas Sydenham (1682), marks the birth of the modern history of nosology. From then on disease became a composite term describing the common features of a variety of individual cases and nosology a branch of medicine concerned with their definition, while nosography dealt with the hierarchical distribution of those entities: species classified into classes, orders, and genders.

During the 18th century classification reached its golden age in the domain of natural sciences. Those in this age of enlightenment were convinced that Nature submitted to the rules of reason and that it was possible by rational methods to unravel its constituting elements and their organisation. Those were the ideas of the chemists, such as Cavendish, Priestley, Scheele, and Lavoisier, and, of the botanists. Carl von Linnæus (Linné) through his publication of the *Systema Naturae* (1735a) and of the *Genera Plantarum* (1735b) was the most famous of the latter. Sydenham had already proposed a botanical model for his concept of disease and, moreover, botany and medicine were at the time closely connected.

Linné's classification of plants was based on two principles. In Nature there exist species, each constituting a finite, stable category, without continuity with the others; the discovery of the true categories can only be achieved by choosing the right criteria. Although Linné tried to apply his method to medicine in his *Genera Morborum* (1763), it was left to two doctors to propose the first ‘natural’ nosologies in

which psychiatry had a significant part: one of them, Boissier de Sauvages, was living in Montpellier where he became Professor of botany at the medical school in 1752; the other, William Cullen, born in Glasgow, taught successively chemistry, physiology, and medicine in Edinburgh from 1755 onwards.

The *Nosologia Methodica* of Boissier de Sauvages (1768) and the *First Lines in the Practice of Physic* (1777–84) of Cullen had a common purpose – to establish a natural classification of diseases – but differed markedly in other respects. Boissier de Sauvages who claimed in the subtitle of his book that it was ‘based on the principles of Sydenham and the system of the botanists’ adhered strictly to Linné's scheme. He described more than 2400 species which are named according to Linné's binary system and affirms that ‘a disease consists of a cluster of several independent symptoms, named syndrome by the Greeks’. In fact, his nosography is mostly a compilation of the works of his predecessors cast artificially in the Linnéan mould. The picturesque names of the 14 species included in the gender melancholia – *melancholia vulgaris*, *amatoria*, *religiosa*, *anglica*, *enthusiastica*, and so on – throw doubts about their allegedly ‘natural’ syndromic nature.

Although the work of Cullen has the same aim as the *Nosologia Methodica*, the classification of the Scottish author reflects a different tradition. The concept of ‘nervous disease’ had been introduced by Willis (1682) and by Sydenham (1682) to replace the old humoral theory. The predecessor of Cullen in Edinburgh, Robert Whytt, had brought together under the heading of nervous disease, hysteria, hypochondriasis, and the proteiform group of the ‘simple nervous disorders’ (Whytt, 1765). Cullen, following the same approach, takes aetiopathogenic mechanisms as the main criterion (Cullen, 1775). He opposes the ‘local diseases’ produced by a known and limited lesion, to the ‘general diseases’. Among the latter he describes neuroses (a term he had already introduced in 1769) as due to a general involvement of the nervous system, affecting its functions. They are subdivided according to the function concerned and the way it is affected in comas, adynamias, spasms, and

vesanies, the last one including mainly the different forms of insanity. The choice of the aetiopathogenic processes as the 'natural' criteria of classification and the introduction of the concept of neurosis remain the lasting contributions of Cullen to the domain of psychiatric nosology.

The clinical approach

However, it remains an undeniable fact that the founder of psychiatry as a medical discipline is Philippe Pinel, even if his role in the liberation of the insane from their chains has been rightly subjected in recent years to a critical reappraisal. The publication in 1801 of his *Medico-Philosophical Treatise on Mental Alienation or Mania* was hailed by the philosophers Maine de Biran and Hegel as a moment of great importance in the history of mankind: by making the study of madness a part of medicine, it had given to the insane the dignity of human beings. However, during his lifetime, Pinel was not merely considered as a psychiatric specialist, but was considered, in France, as the leading authority in general medicine. In 1798 he had published *Philosophical Nosography* in which he had proposed a classification of all known diseases, and this work, which went through many editions, remained a standard reference book for a whole generation of students.

A striking discrepancy exists between the *Philosophical Nosography* and the *Treatise on Mental Alienation*. The former is obviously inspired by Cullen, whose *First Lines in the Practice of Physics* had been translated by Pinel several years before. The same four classes of diseases are described; the fourth one, neuroses, being divided into the four sections proposed by Cullen.

In the *Treatise on Mental Alienation* the perspective is radically different. In the foreword, Pinel describes how he was compelled to divide the "alterations of the understanding" both to satisfy his "sense of order" and answer to the practical necessities of the management of the patients in the hospital. He considers now that the "arbitrary and incomplete classifications of Sauvages and Cullen", when put on trial, show their insufficiencies and he proposes his own, based on "a deep study of the symptoms" (Pinel, 1801, 1809). Mental alienation includes four species: melancholia, mania, dementia, and idiotism. This model deserves a close examination because it will have a lasting influence on the later systems. Three main points must be singled out.

Firstly, the limits of alienation are no longer the limits of the vesanies. What remains is what we would call today mental disorders of psychotic intensity. The reason for this is of a practical nature.

Bicêtre and la Salpêtrière were asylums for the insane. They received only severely affected patients, whose behaviour was such that it required compulsory segregation: they were 'alienated' from society by their disease. They were the only patients who came under the observation and the care of the specialists who were, from then on, called alienists and later psychiatrists, and this situation lasted until the end of the 19th century. During that time psychiatric classifications were mostly concerned with psychoses.

The second point concerns the position of hysteria and hypochondriasis. For Cullen both were neuroses but did not belong to the subgroup of the vesanies. Pinel, who in his *Nosography* had maintained the general concept of neurosis, discarded the term in his *Treatise*. By excluding hysteria and hypochondriasis from his book he initiated a dichotomy in the field of mental disorders. Neurosis continued to be used to qualify a number of disturbances, but was completely dissociated from mental alienation. The new class of neurosis, deprived of the vesanies, was to have a complex history. It was defined by often changing criteria and lost progressively many of its original components which were attributed to the neurological, endocrinological, and even infectious diseases. Hysteria and hypochondriasis were the only survivors of Cullen's neuroses, but new entities were added such as neurasthenia, anxiety neurosis, phobic and obsessional neuroses, which corresponded to Whytt's 'simple nervous disorders' (Whytt, 1765). However, the important fact is that Pinel's *Treatise* left the study of neuroses to general medicine and, when it was born around 1850, to neurology. The most important contributions to the subject did not come from psychiatrists but from people such as Briquet, who was Professor of internal medicine, and Beard, Charcot, or Freud, who were neurologists, and the nosology of neuroses developed along largely independent lines.

A third peculiarity of Pinel's concepts is that they diverge fundamentally from those of Boissier de Sauvages and Cullen. Pinel did not accept Cullen's idea of the classifying role of an aetiopathogenic criterion. In the *Treatise* he abandons practically any coherent theory about the causes and mechanisms of insanity. In fact his main reference is the "deep study of the symptoms". Boissier de Sauvages had also claimed that his nosography was based essentially on symptoms. Pinel describes only four species and moreover does not really consider them as separate entities. They are but modes of expression of a single disease, mental alienation, as testified by the fact that in the title of his book, he uses the word in the singular (Pinel, 1801, 1809). His species do not have

the ontological quality of Boissier de Sauvages' categories, they only provide a convenient instrument for the management of the patients. The idea of the unicity of insanity which in Pinel came from a pragmatic clinical and therapeutic attitude, and is in sharp contrast to the rigidly categorical scholastic approach of Boissier de Sauvages, was to reappear constantly later, on modified premises and in modified form.

In the words of Gourevitch (1983) 'the mythical history of the birth of psychiatry in Paris makes a clinician the successor of a philanthropist. Pinel had delineated the limits of the field of psychiatry, Esquirol had transformed it in a garden of species'. Pinel had in fact more preoccupations with nosology than his pupil Esquirol, even if he had largely abandoned them in his *Treatise*.

The greatness of Esquirol's work lies in the accuracy of his clinical descriptions far more than in his theoretical speculations. He recognised it when writing in the foreword of his textbook (1838): 'I narrate the facts as I saw them. I have rarely sought to explain them and I have never tarried before systems which have always seemed to me to attract by their brilliance rather than be useful in their applications'. He has followed Pinel's ideas in their broad outlines and, if his textbook is entitled *Treatise on the Mental Diseases*, it expresses more a concession to the medical habits than a deep conviction in the existence of finite categories of mental disorders. His main contribution to nosology concerns a specific domain: the revision of Pinel's melancholia. The state of the mood became the basic criterion and allowed to separate two species: lypemania whose primary manifestation was a 'pathological sadness'; and monomanias which regrouped the remaining cases. Lypemania could of course present delusional symptoms – Pinel had defined melancholia as a 'délire partiel' – but, if they existed, they were secondary to the abnormality of mood, and anyway their presence was not necessary. The new terminology did not survive but the conception of lypemania as a depression of mood was integrated in the post-Esquirolian melancholia.

The organic medical model

Both Pinel and Esquirol were extremely cautious when it came to incriminating lesions of the brain as causes of mental alienation. Pinel had little sympathy for Gall's doctrine and Esquirol was more interested in clinical observations than in the results of autopsies. It was left to a pupil of Esquirol, Georget, to introduce organicity as a principle of differentiation inside the global concept of insanity.

In *On Madness* (1820) Georget admits the general postulate that any pathology of the mind implies the participation of the brain, but proposes to distinguish between two qualitatively different types of mental alienation. The first one, 'délire aigu' (acute delirium) whose manifestations express the cerebral reaction either to a direct toxic or cerebral involvement or indirectly to a somatic disease, is 'but a symptom'. The second one, 'madness', includes the species of mental alienation of Pinel and Esquirol, mania, melancholia, dementia and idiocy, to which he added a fifth one, the confusional curable state or 'stupidity'. It is easy to recognise in Georget's dichotomy the first draft of the later distinction between organic disorders and functional psychoses, even if his respect for the work of Esquirol compelled him to reluctantly maintain dementia and idiocy in the second group.

Two years after the publication of *On Madness*, in 1822, a young resident at the Charenton hospital near Paris, Bayle, presented and defended his inaugural thesis entitled *Research on Mental Diseases* (Bayle, 1822) in which he undertook to "prove that insanity is sometimes the symptom of chronic inflammation of the arachnoid". The description by Bayle of general paralysis is a landmark in the history of psychiatry. For the first time an entity was isolated and clinically characterised by specific symptoms having a definite course and aetiologically by a precise lesion of the central nervous system. The scheme corresponded perfectly with the concept of disease which, at the same time, was established in medicine by using the anatomo-clinical approach.

In 1826, in his *Treatise on Brain Diseases*, Bayle suggested that the model could also be applied to the understanding of madness, of the hitherto idiopathic alienation. The real turning-point came later, in 1855, with Moreau de Tours who, taking general paralysis as an example, affirmed that one could describe 'mental entities' whose symptoms, whatever their nature – psychological or neurological – stemmed from the same lesion of the brain (Moreau de Tours, 1854–55). The scepticism of Pinel and Esquirol was now forgotten, the neuropsychiatric perspective, whose emblem was general paralysis, took a leading position.

The search for a relation between symptoms and cause, illustrated by Bayle, was also, in a different perspective, the basis of the work of Morel. In Morel's epoch-making *Treatise on the Physical and Mental Degeneracies of the Human Species* (1857), he introduced the idea that a large part of mental alienation was but an expression of a functional and possibly lesional change of the nervous system produced by the process of degeneracy. Any psychological or physical

noxious influence provokes, in the organism, a pathological deviation from the originally perfect state of humanity, and those deviations are inherited. Since the noxious influences are usually permanent, they have a cumulative effect and degenerative changes increase in severity with the successive generations of the affected family. Mental disorders, symptomatic of the common aetiological process, can be accordingly classified in a hierarchical way from the mildest, the 'nervous temperament', to the severest, 'idiocy'. Morel's conviction that nosology must only use causes as its criteria extended to the smaller part of mental pathology not accounted for by degeneracy.

In his *Treatise on Mental Diseases* (1860), Morel refused to consider melancholia and mania as "essential forms" since "depression and excitation are but symptoms which can be found in any form of madness". Morel's nosology has been important on several counts. It is the first comprehensive nosology claiming to be established on a purely aetiological basis. The concept of degeneracy, despite its scientific weakness due to the acceptance of the heredity of acquired characteristics, is, as Jaspers (1913) has pointed out, the origin of the later notion of endogeneity. Finally, Morel's mental diseases are no longer restricted to alienation. The mild manifestations of degeneracy include some of the symptoms of personality disorder and the classical neuroses are reintegrated in the psychiatric field.

Theories of classification

As the 19th century was nearing its end, psychiatric nosology entered its modern phase. The second edition of Kraepelin's textbook of psychiatry, published in 1887, and the sixth edition which appeared in 1899, present a striking contrast. One is still rooted in old concepts and uses an obsolete terminology, the other can be easily understood today.

Although the absence of real discontinuities in history makes division into periods largely arbitrary, one may reasonably consider that modern psychiatric nosologies were born about a century ago as the result of a long process during which empirical observations have been accumulated and theoretical interpretations proposed. It seems therefore fitting at this point, before describing the nosological models which are, in one form or another, still in existence, to discuss their logical aspects, their purposes, and their varieties.

Classification consists of dividing a population of elements into subpopulations according to certain rules which allow the attribution of each element to

a definite category. Condensation of information is the basic purpose of the procedure. By knowing that an element belongs to a category, we know that it possesses a certain number of characteristics without enumerating them. Categories are defined by criteria which are chosen according to the purpose of the classification. A gardener will possibly classify plants according to their size, or the colour of their flowers, or any such property which will help in his/her work. Such classifications based on a single characteristic are said to be artificial. Although useful for special practical purposes, they allow only a limited prediction. A classification is said to be natural when its predictive value extends to the maximum possible number of facts and there is, for that reason, in any field of science, only one natural classification, based on the optimal combination of appropriate characteristics.

The criteria used for classification can belong to different levels, but if a classification based on superficial criteria is natural, it will hold true when, with the advances of knowledge, more basic theoretical criteria can be used. The original classification of plants based on their observable morphology was not substantially modified by the progresses of palaeontology and by the discovery of genes, nor was the Mendeleev classification of elements, based on chemical reactivity, invalidated by the study of their atomic structure.

In psychiatry, as in medicine in general, criteria for classification pertain to three levels: those of the symptoms, of the mechanisms, and of the causes. This is, of course, an oversimplification: in psychiatry symptoms can be subjectively felt (symptoms *stricto sensu*) or be behavioural or somatic changes observed by the doctors (signs). It is also possible to take into account their temporal evolution; pathogenic criteria include both neurophysiological and biochemical brain processes and psychological mechanisms; and causes can belong to the psychological, social, or biological spheres. Nevertheless, one can schematically develop symptomatic, pathogenic, and aetiological nosologies, the last being viewed as hierarchically superior and considered as the really 'natural' ones.

Symptomatic categories are ideally syndromes. If in a population of individuals the frequency of symptom A is x , and the frequency of symptom B is y , a syndrome exists if the observed frequency of the subjects presenting simultaneously the two symptoms is significantly superior to the frequency x by y , which would be expected if the two symptoms were independent, the same reasoning being applicable to any cluster of symptoms. The relationships between the three levels are complex. A syndrome,

as it has been defined, that is if it is not an arbitrary combination of symptoms, is the expression of a mechanism; but this mechanism may be triggered by one or several causes. Two additional remarks have to be made.

Firstly, most models are not homogeneous. They may combine elements from two or even three levels. This lack of homogeneity can express itself in another way. The field of psychiatry is divided into two or more fields, each submitted to a different nosological system: since Georget, the so-called organic disorders have been classified according to the known biological causes (or to a combination of symptoms and causes) whereas, in the remaining field, different, that is syndromic criteria, have been used.

The second remark concerns a general phenomenon in scientific classifications. The number of categories chosen depends to some extent on the personal inclination of the author whose attitude of mind orientates him/her towards a more analytic or more synthetic pole, as it is illustrated by the nosology of Boissier de Sauvages and that of Pinel.

Until now I have dealt with models derived from Sydenham's disease concept, which rests on the assumption that one can summarise the available information by describing finite classes of individuals, each being defined by a set of common characteristics. Since the early days of psychiatry, the legitimacy of such a categorical approach has been more or less openly questioned. Non-categorical views have not only been expressed in the traditional ambiguous formula – "There are no diseases, but only patients" – but they have been supported by philosophical theories and formalised in various models. The most extreme position rests on the work of Wilhelm Dilthey (1921–58) who opposed the natural sciences, whose function was to explain (*erklären*) observed events by relating them to other events in accordance with natural laws, and the sciences of the mind (*Geisteswissenschaften*), which are based on the direct understanding (*verstehen*) of the individual personality in its structure and history, each man being a law unto himself. As a consequence, psychology and, by extension, psychiatry must be idiographic and not nomothetic, that is, it must aim at the description of each individual and not at the discovery of general laws, which is implicitly the justification for the categorical approach.

Such a negative position, although with a different background and different implications, is apparent in dimensional models. The old psychological concept of the faculties of the soul had allowed the description of the expected behaviour of an individual by enumerating the strengths and weaknesses of each one. Laplace (1878–1912), Gauss (1821) and their

successors made a mathematical formulation possible. The 'normal law' was shown by Quételet (1831) to fit the distribution of physical characteristics in the general population, and Francis Galton (1883) extended this observation to psychological features. The use of such a dimensional model has two consequences: being a continuous distribution, the difference between normality and pathology is not qualitative, but only quantitative; and there is a necessity to discover the most appropriate dimensions.

It was left to the British statisticians of the beginning of this century to propose an appropriate statistical technique by developing factor analysis. However, the dimensional approach had existed long before, and one can already consider Morel's degeneracy as a dimensional entity whose degrees of intensity are expressed in various pathological conditions. Between the idiographic and the dimensional approaches, many other intermediate non-categorical models have been proposed. One, which is still influential, stems from the work of Guislain who, in his *Treatise on Phrenopathies* (1835), suggested that all aspects of mental alienation were but subsequent reactions to a common 'fundamental alteration' – 'moral pain'.

The idea, taken over by Zeller who added the notion that the symptomatic reactions appear in a given sequence in the patient and belong to a 'unitary psychosis' (*Einheitspsychose*), was adopted by Griesinger (1845), and since then it has been detectable under various guises (Vliegen, 1980). Whatever the nature of the non-categorical model, its validity extends sometimes only to a fraction of the mental disorders. The *Einheitspsychose* involved only our functional psychoses and Morel opposed the 'accidental mental disorders' to the manifestations of degeneracy.

The concept of disease

Kraepelin's work occupies a central position among the models which have been proposed for a century and are still competing with each other. In the fifth edition of his *Treatise* (1896) he announced that from then on he would adopt an exclusively clinical perspective, which he elaborated in the 'concept of disease' (*Krankheitsbegriff*) based on the following principles (Hoff, 1985). They are, in psychiatry, finite categories – the diseases. If we had at our disposal all the scientific facts, we could define the categories either by symptomatic, pathogenic, or aetiological criteria, but the three resulting nosologies would be identical, a perfect correspondence between the three levels being postulated. Accordingly, if we do not

yet have a sufficient knowledge of the mechanisms and of the causes, the study of the symptoms, of their conditions of apparition, their nature, and their evolution will result in a 'natural' nosology.

The emphasis on evolution, which was taken from Falret through Kahlbaum, allowed Kraepelin to describe and oppose dementia praecox (our schizophrenia) and the manic-depressive insanity, but his main contentions were the strictly categorical nature of nosology and the unequivocal nature of the relation between symptoms and causes. As far as the latter were concerned, his position was far from dogmatic. He accepted the existence of both psychological and biological factors and recognised that their nature and role were still in many cases hypothetical or unknown. The influence of Kraepelin's nosology remains considerable, not so much through the formulation of the *Krankheitsbegriff*, but because the categories the concept allowed him to describe clinically have remained, whatever the intervening modifications in their nomenclature and content: the direct precursors of our present-day mental disorders.

Two categorical models are related to Kraepelin's nosology. The first model, which was anterior to it, was proposed by Wernicke (1900) and postulated, in contrast to Kraepelin's cautious aetiological formulations, that each category has a biological basis in the form of a limited anatomical structure or of a physiological mechanism in the brain. Kraepelin condemned it ironically as a beautiful monument built on shaky foundations and it was for a time relatively forgotten. However, it kept its vitality, was developed by Kleist (1934) and, more recently, by Leonhard (1972); a specific heredity being postulated for all categories which, in contradistinction to Kraepelin's simple scheme, are numerous. This lasting influence expresses itself in many ways today. Leonhard's classification has enthusiastic proponents in some countries; concepts such as those of the unipolar and bipolar disorders and of the autonomous cycloid or schizoaffective psychoses derive directly from it. More broadly it can be said that some orientations of present-day biological psychiatry are closely connected to it: the use of the new brain imagery techniques has given arguments in its favour as, for instance, in the description of subtypes of schizophrenia or in the delimitation of the obsessive-compulsive disorder; and again the hypothesis that different reactions to different drugs are valid classification criteria, as in the panic and generalised anxiety disorders, rests on Wernicke's basic idea.

The second model, related to Kraepelin's nosology, and posterior to it, was elaborated by Kurt Schneider (1987). Its importance lies not only in the introduction of the 'first-rank symptoms', one of the

sources of the diagnostic criteria, but also in the originality and clarity of its underlying principles. Psychiatry is divided into two fields, corresponding respectively to the 'diseases' and to the 'abnormal variations' with no transition between them. The former field, submitted to the categorical system, includes the pathological manifestations whose cause is biological, and is subdivided provisionally into two sections: the organic psychoses whose biological aetiology is already shown; and the endogenous ones, essentially schizophrenia and manic-depressive psychosis, whose biological origin is expressly affirmed (the so-called 'somatogenic postulate'). As we do not know the exact aetiology of the latter yet, their classification has to stay provisionally on the syndromic level: hence the description of the first-rank symptoms. Contrary to the 'diseases', the abnormal variations merge insensibly into the normal personality, and are but quantitatively different from it. They include the psychopathic personalities (our personality disorders) and the reactions to experience (*Erlebnisreaktionen*). The term neurosis is never used and the corresponding manifestations are included here. The model of the variations is purely dimensional and the descriptions based exclusively on symptoms. Since there is a continuum with normality, Schneider proposes as criteria for the existence of pathology the presence of suffering in the individual or in society.

The models of Wernicke, Kraepelin and Schneider, the last one only in the domain of his 'diseases', are categorical and postulate, each in its own way, a strong correlation between the patterns of symptoms and the causes. They are still with us, consciously or not, even if their influence may apparently concern the categories described on the basis of their theories rather than the theoretical background itself. But as soon as they appeared, doubts were raised about their validity. Hoche, the main opponent to Kraepelin's *Krankheitsbegriff* did accept the legitimacy of a categorical approach, but insisted on the possibility that the same cluster of symptoms could have several aetiologies. His 'syndromic doctrine' (*Syndromenlehre*) (Hoche, 1912) was of course in its principles as old as psychiatry, but has to be seen as an expression of the resistance to the disease concept. To a certain extent, the same can be said of Bleuler's clinical description of schizophrenia (Bleuler, 1911). Although acknowledging the value of Kraepelin's clinical description of dementia praecox, he adopted a profoundly different perspective. By establishing the diagnosis on the 'basic symptoms' (*Grundsymptome*), and not on a common evolution, by speaking in the title of his book of the "group of schizophrenias", he transformed the Kraepelinian 'disease' into a syndrome.

The non-categorical models

Psychiatric thinking has always balanced between two opposite poles, between the natural sciences and Dilthey's sciences of the mind, between a nomothetic categorisation of a medical nature and idiographic positions. The hostility to categorical models has been formulated in extremely different terms. We may mention here the existential analysis whose role has always remained limited, and Adolf Meyer's concept of 'reaction types' whose influence, especially on the psychiatry of the USA, must not be underestimated (Meyer, 1948–52).

However, the main anticategorical currents have their origin in two widely different domains: psychoanalysis and statistical psychology. It may appear ironical that among the first psychiatric contributions of Freud (1906), one finds the delimitation of a new entity, the anxiety neurosis, defined by the traditional combination of a cluster of symptoms, a pathogeny, and an assumedly biological cause. However, Freud was not deeply interested in nosology and his main efforts concentrated on the psychological mechanisms which, in relation to maturation and early life situations, were responsible for the appearance of pathological symptoms. Psychoanalysis accepted more or less the established nosology without giving much thought to it. But its concentration on the level of psychological mechanisms, the evolution of the diverging schools of 'dynamic psychiatry', have led many of its adherents to reject any categorical model, as evidenced by the statement of Masserman (1953) who condemns "the tendency to 'define' and classify 'mental disorders' into categories comparable to those used in general medicine, despite the fact that in the case of most mental disorders, little justification for such a classification exists on aetiological, clinical and even heuristic grounds".

A formalisation of the dimensional approach, another less extreme expression of the anticategorical attitude, was made possible by the introduction of factor analysis by Spearman in 1904. It was first applied to psychiatry by Moore (1929) but had been, for a long time, used by psychologists to discover the basic dimensions allowing a meaningful description of any individual's personality in a system of reference. After 1950 many attempts were made at a dimensional description of psychiatric symptoms, thanks to the parallel development of psychiatric rating scales and to the technical facilities offered by modern computers. The term syndrome, frequently attributed by American authors to such dimensions, is misleading, since syndromes in the medical sense can only be isolated by another multivariate

mathematical procedure, cluster analysis. The most ambitious of the dimensional models, encompassing the whole of psychiatry, have been proposed by psychologists – Eysenck's tridimensional model being one of the best known (Eysenck, 1955). But the approach has also been intensively applied by psychiatrists to limited domains.

The controversy about the existence, either of distinct categories inside the anxiety and depressive disorders or of a continuum, which has opposed psychiatrists mainly in Great Britain, has made a large use of arguments derived from such mathematical methods. The current discussions about the optimal number of dimensions to be used in the description of schizophrenic symptoms are another example.

The DSM-III approach

The success of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III; American Psychiatric Association, 1980) and adoption of its principles in ICD-10 (World Health Organization, 1992) may infer that we have reached the end of the history of the competing nosological models in psychiatry. Much has been and is still written about the DSM-III and only some important points will be evoked. Although the authors state that "there is no assumption that each mental disorder is a discrete entity", the categorical nature of the system is the natural result of the use of diagnostic criteria, introduced for improving the inter-rater reliability of the diagnoses. This categorical nature is the only justification for the qualification of 'neo-Kraepelinian', much used in the USA by some of the authors of DSM-III. The extension of a categorical model to the whole field of mental pathology is the source of difficulties.

Personality disorders are expressly described as exaggerations of personality traits, but the logical consequence, drawn by Kurt Schneider of the adoption of a dimensional model (Schneider, 1987), has been eluded since "traditionally the clinician has been directed to find a single personality disorder that adequately describes the person's disturbed personality functioning", the result being that a single diagnosis is frequently completed with difficulty.

The main claim of the DSM-III is its 'atheoretical' nature. Except for the organic disorders and a few psychogenic reactions, the categories are described by symptomatic criteria; no hypothesis being made, at least theoretically, about the generally 'unproved' aetiopathogeny. It is a direct repudiation of Wernicke, Kraepelin and Schneider, together with some psychoanalytic conceptions. In its selection of syndromal

categories, the DSM-III has made some innovations which, in conjunction with the adoption of a few new terms, has been a source of discussion, but they have not been of a fundamental nature. A conspicuous trend has been the increase in their number, accentuated in the revised edition (DSM-III-R; American Psychiatric Association, 1987).

This analytic position, whose justification is the necessity of increasing the homogeneity of the pathological groups, leaves open two basic questions: are the criteria selected significant ones; and do the clusters of symptoms chosen correspond to the statistical definition of a syndrome? The answer depends on the 'natural' or 'artificial' nature of the classification proposed. The wide acceptance of the DSM-III and of the related ICD-10 is largely due to the fact that they provide a practical answer to the need for a common language in psychiatry. But the application of such a detailed categorical classification of high reliability to such crucial domains as epidemiology and clinical psychopharmacology, for which it was presented as especially appropriate, has already raised doubts about its validity. The incidence of comorbidity between categories in many epidemiological studies reaches a level which has no equivalent in other branches of medicine and suggests the need for a reappraisal of the categorical structure. The relative lack of a precise and direct correspondence between nosological categories and the efficacy of chemically and pharmacologically specific drugs have led to the suggestion that a better understanding could proceed from a trans-nosological approach. Such criticisms are not of a theoretical nature, but rest on the objective results of concrete applications.

Conclusions

The numerous problems raised by the multiplicity of nosological approaches can be reduced to a few basic questions. Does psychiatry constitute a homogeneous field which has to be submitted to the same model? If the answer is no, which model is the most appropriate to each subgroup of mental disorders? Nosologies, in every branch of medicine, are attempts of the integration of the available knowledge in a construct which, to varying degrees, implies hypotheses. The present trend claims to favour the former and to condemn the latter. However, it must not be forgotten that the value of a nosology is gauged on the number of predictions it allows and that nosological concepts based on speculative views have often proved to be useful.

A perfect psychiatric nosology is probably an unattainable goal, but a better consciousness of the

nature of the models which have been successively proposed and are still largely with us could help our progress in its direction.

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(First received December 1992, accepted January 1993)