

News, Notes and Queries

EIGHTEENTH-CENTURY NOSOLOGY AND ITS SURVIVORS*

It is well known that Sydenham recommended classifying diseases 'with the same care which we see exhibited by botanists in their phytologies'.¹ He suggested elsewhere that attempts to discover the causes of diseases were doomed to fail,² man's faculties being shaped 'to perceive only the superficies of bodies, not the minute processes in nature's "abyss of cause"'. It is thus man's duty to confine himself and not to venture beyond the natural limitations of his cognition.³ For only the physician who submits to this duty can hope to be of real service to mankind and not get caught in a web of 'curious and irrelevant speculations'.⁴

John Locke (1632–1704), Sydenham's friend and, like him, a physician, supported the plea for self-imposed restraint. 'The learned men of former ages', he writes, 'employed a great part of their time and thoughts searching out the hidden causes of distemper, were curious in imagining the secret workmanship of nature and . . . putting all these fancies together, fashioned themselves systems and hypotheses', which have 'diverted their enquiries from the knowledge of things'.⁵ There can be no hope of progress if medicine continues on the same path. Locke concludes that 'we are so far from being capable of 'knowing the causes and mechanisms of natural phenomena that it is 'lost labour to seek after it'.⁶ For 'pouring and gazing on the parts which we dissect without perceiving the very precise way of their working is but still a superficial knowledge, and though we cut into these inside, we see but the outside of things and make but a new superficies for ourselves to stare at'.⁷ Not even with the help of a microscope can we hope to pass beyond the natural limitations of our cognition. 'What microscope, however exquisitely elaborate, shall make visible those minute pores by which, for example, the chyle passes from the intestines to the chyliferous vessels? Or what microscope shall exhibit those ducts through which the blood, conducted by the arteries, is passed onwards to the orifices of the veins?' Sydenham asks.⁸ And even if any one had 'so sharp a knife and sight', Locke adds, 'as to . . . make an ocular demonstration that the pores of the parenchyma of the liver or kidneys were either round or square and that the parts of urine and gall separated in these parts were a size and figure answerable to those pores. I ask how this would at all direct him in the cure either of the jaundice or stoppage of urine?'⁹

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¹ Thomas Sydenham, *Works* . . . , trans. from the Latin ed. of Dr. Greenhill, by R. G. Latham, 2 vols., London, Sydenham Society, 1848, vol 1, p. 13.

² Sydenham, loc. cit., vol. 1, p. 20; cf. David E. Wolfe, 'Sydenham and Locke on the limits of anatomy', *Bull. Hist. Med.*, 1961, 35, 193–220.

³ Sydenham, loc. cit., vol. 1, p. 102, and vol. 2, p. 171; cf. Wolfe, loc. cit., p. 210.

⁴ Sydenham, loc. cit., vol. 2, pp. 83–84.

⁵ *De arte medica*, after Wolfe, loc. cit., p. 209.

⁶ Essay IV, 3, 29, after Wolfe, loc. cit., p. 214; see also R. Yost, 'Locke's rejection of hypotheses about submicroscopic events', *J. Hist. Ideas*, 1951, 12, 111–30.

⁷ Kenneth Dewhurst, 'Locke and Sydenham on the teaching of anatomy', *Med. Hist.*, 1958, 2, 1–12, p. 5.

⁸ On dropsy. Sydenham, loc. cit., vol. 2, p. 171.

⁹ Dewhurst, loc. cit., p. 4; see also Patrick Romanell, 'Locke as a medical pragmatist', *Ithaca*, 1962, 279–82; and Nikolaus Mani, in an unpublished paper on the controversy of Sydenham and Malpighi on microscopy.

Underlying Locke's and Sydenham's attitude there seems to be a certain resignation, among other things, and this is what I intend to concern myself with in the course of this paper. It is the resignation of the doctor trained to think as a scientist who feels responsible to his patients but is unable to help them, the present state of medical science being what it is. The hopes of former physicians, in particular the iatrophysicists and iatrochemists of the seventeenth century who had tried to provide a scientific basis for medical practice, had only been realized to a very small degree. The 'Galenists' four humours, or the chymists' sal, sulphur and mercury, or the late prevailing invention of acid and alcali, . . . [are] but so many learned empty sounds, with no precise determinate signification', Locke writes to Molyneux.¹⁰ And Sir Richard Blackmore (1653–1729), a pupil of Sydenham's, points out how little the great Boyle actually left behind for the benefit of the patients: 'a little collection of remedies and receipts sold for twelve pence, but too dear'.¹¹ Blackmore, by the way, is the man who claims to have been advised by Sydenham to read *Don Quixote* if he wished to become a good doctor,¹² a fact which does not exactly betoken great confidence in the achievements of medicine as they then were.¹³

Apart from the urgent recommendation simply to describe the diseases with the greatest possible precision¹⁴ since one could, by that method, not possibly go wrong, one of the consequences of this resignation was Sydenham's above-mentioned advice to classify the diseases like plants, according to their external characteristics, in view of the impossibility of penetrating their substance. What prompted this suggestion was, however, not only resignation, but also a hope: the hope that in this way medicine would finally succeed in making the desired advances, particularly in the field of therapy. Yet hope is, of course, in itself a sign that the goal aimed at has not been reached.

It is not surprising that, as Karst¹⁵ and Dieppen¹⁶ have pointed out before, the resignation underlying Locke's and Sydenham's attitude and suggestions should also be found quite openly in those who carried out Sydenham's suggestion to classify diseases like plants—something which Sydenham himself had wisely refrained from doing!

François Boissier de Sauvages (1706–1767), the doctor with a preference for botany, was the first to tackle this task. The first edition of his work appeared anonymously between 1731 and 1734:¹⁷ *Nouvelles Classes de Maladies*.¹⁸ In his introduction he claimed that medicine was finally beginning to recognize her previous aberrations as such, and that physicians knew nothing of the causes of the diseases they treated and

¹⁰ Some familiar letters between Mr. Locke and several of his friends, London 1708, p. 284, after Wolfe, loc. cit., p. 208–9.

¹¹ Sir Richard Blackmore, *A Treatise upon the Small-pox, in two parts* . . . London, 1723, p. viii.

¹² Blackmore, loc. cit., p. xi.

¹³ L. Edelstein, 'Sydenham and Cervantes', *Bull. Hist. Med.*, 1944, suppl. 3, 55–61.

¹⁴ Sydenham, loc. cit., vol. 1, p. 14.

¹⁵ Wilhelm Karst, *Zur Geschichte der 'Natürlichen Krankheitssysteme'*, Berlin, 1941, p. 17.

¹⁶ Paul Dieppen, 'Die Stellung der nosologischen Systeme in der Geschichte der Medizin', *Arch. Gesch. Med.*, 1941, 34, 65.

¹⁷ Frederik Berg, 'Linné et Sauvages. Les rapports entre leurs systèmes nosologiques', *Lychnos*, 1956, 31–54.

¹⁸ François Boissier de Sauvages de la Croix, *Nouvelles Classes de Maladies qui dans un Ordre semblable à celui des Botanistes comprennent les Genres et les Espèces de toutes les Maladies, avec leurs Signes et leurs Indications*, Avignon [between 1731 and 1734].

had to admit that when they did succeed in effecting a cure it was only by chance. Baglivi, Bellini, Bernoulli, Michelotti, and Boerhaave hit on a number of fine discoveries by applying the principles of mathematics to medicine, and the anatomists uncovered many of nature's secrets; however, all these findings were of no practical use.¹⁹ It is significant in this context, by the way, that the application of Peruvian bark, the only specific remedy then known, was not the result of iatrochemical or iatrophysical research. For these reasons Sauvages urged the setting aside of logic, chemistry and physics for the sake of studying the patients themselves and their illnesses. In the next large edition he suggested that the discoveries of Bellini, Bernoulli, Michelotti and Hales might be put to practical use some time in the future; until such time he, Sauvages, would advise his readers not to depend on such theories. He pointed out that although the circulation of the blood had been discovered about one hundred years previously, its laws were still not adequately known.²⁰ Sauvages referred his work officially to Sydenham; cf. the adjunct to the title of his five-volume nosology of 1763: '... juxta Sydenhami mentem et Botanicorum ordinem.'²¹

It was not only hoped that a working therapy would evolve from a systematic nosology of diseases; it was also hoped that such a nosology would facilitate communication between doctors and thus be of didactic use.

The significance of the communicatory value of nosology is, for instance, clearly stressed by Vincenzo Chiarugi (1759–1820), the nosologist of psychiatry. In the introduction to the systematic part of his work he wrote that considering the prevailing uncertainty and confusion in matters of terminology, it seemed necessary to establish a set of terms with which everyone would associate the same meanings.²² And Johann Peter Frank (1745–1821), although considering nosological systems as such to be worthless from a scientific point of view, nevertheless conceded that 'they make medical language accessible to the most diverse nations from pole to pole'.²³

The argument of the benefit of nosology for the young doctor was already advanced by Boissier de Sauvages in his first edition.²⁴ Later it was to be his main argument. This may not be an accident: Lopez Piñero has shown that one of the reactions to the doubts which had arisen in the course of time concerning the scientific value of nosology consisted in a stressing of its didactic value.²⁵ In later editions Sauvages compares his nosology to a compass or the thread of Ariadne, with the help of which it is supposed to be possible to find one's way about in the labyrinth of practical medicine. What else can a beginner hold on to? He leaves medical school and starts fighting against an army of diseases. Yet no useful theoretical work has armed him for this. He almost takes to flight in view of the enemy's superior strength. Only a sense of shame keeps him from running away. What is he to do now? Desperation

¹⁹ *Ibid.*, p. i–ii.

²⁰ *Idem.*, *Nosologia methodica sistens morborum classes, genera et species, juxta Sydenhami mentem et botanicorum ordinem*, Amsterdam, 1763, vol. 1, intro. § 20.

²¹ *Ibid.*, title.

²² Vincenzo Chiarugi, *Abhandlung über den Wahnsinn überhaupt und insbesondere*, transl. from the Italian, Leipzig, 1795, vol. 3, § 811, p. 452.

²³ Diepgen, loc. cit. p. 63, transl. by Ch. Trautvetter.

²⁴ Sauvages, *Nouvelles classes de maladies* . . . , p. xi ff.

²⁵ José M. Lopez Piñero, 'Los sistemas nosológicos del siglo XVIII', *Arch. iberoamer. Hist. Med. Antropol. méd.*, 1961, 13, 74–75.

makes him bold. He begins to emulate his colleagues whose aplomb hides their ignorance and doubts and who utter trivialities with an air of conviction. There are, however, doctors who wish to exercise their skill honestly and are not prepared to make their fortune by relying on the ignorance of the masses. These are more likely to follow the example of Sydenham,²⁶ by which Sauvages obviously means that they will try to classify diseases like plants according to Sydenham's suggestion.

Linnaeus too seems to have been enthusiastic about Sauvages' system partly for didactic reasons.²⁷ 'My weak brain can understand only what can be grasped systematically', he wrote to Sauvages.²⁸ J. B. M. Sagar (1702–?1778) again took up Sauvages' comparison of nosology with the thread of Ariadne and also stressed its practical value: 'ille Nosologus fuerit maxime practicus, qui fuit maxime systematicus'.²⁹ William Cullen (1712–1790) too created his nosology, according to his own words, above all for didactic purposes.³⁰

And Erasmus Darwin (1731–1802), Charles Darwin's grandfather, wrote in his *Zoonomia* that medicine had been rash in trying to find mechanistic and chemical explanations for the laws of life. Now the 'want of a theory . . . to conduct the practice of medicine is lamented by its professors; for . . . a great number of unconnected facts are difficult to be acquired, and to be reasoned from . . .'.³¹

In all these utterances the two notions of beginners in medicine on the one hand and medicine herself as a beginner on the other tend to overlap. It is true that the nosological systems were designed to help medical students, but they were also to further medicine as a science, for as such it had still not progressed beyond its initial stages. For centuries it had kept going astray. Its language had become confused and unintelligible. There had to be a radically new approach to it. Nosology provided a possible new approach and its terminology provided the linguistic means to deal with it.

There is hardly any need to point out, though, that even in these hopeful eulogies of the didactic and communicatory value of nosology there can still be detected a note of resignation.

And the way in which the last great nosologist, Philippe Pinel (1745–1826), defended nosology against its enemies is characteristic (he defended it, that is, in his capacity as physician;³² it is interesting to note that, in his capacity as eminent psychiatrist, he insisted less on its significance): whoever objects to nosology is like someone who ungratefully abuses the man who has shown him the way out of confusion and error.³³ For Pinel did not deny that the pathological method that had meanwhile

²⁶ Sauvages, *Nosologia methodica* . . . , vol. 1, intro., §§ 1 ff. and 21–22.

²⁷ Carl von Linné, 'Genera Morborum', In: Sauvages de la Croix, *Nosologie méthodique* . . . , Lyons, 1772, vol. 10, pp. 419–25; see also Berg, loc. cit. pp. 41–42.

²⁸ Knud Faber, *Nosography in Modern Internal Medicine*, London, 1923, p. 22.

²⁹ Karst, loc. cit., pp. 25–26.

³⁰ William Cullen, *Kurzer Inbegriff der medizinischen Nosologie: oder systematische Eintheilung der Krankheiten von Cullen, Linné, Sauvages, Vogel und Sagar*, after the 3rd ed., 2 vols., Leipzig, 1786. See also Lopez Piñero, loc. cit., p. 77.

³¹ Erasmus Darwin, *Zoonomia; or, the Laws of Organic Life*, London, 1794 and 1796, vol. 1, pp. 1–2.

³² Philippe Pinel, *Nosographie philosophique ou la Méthode de l'Analyse appliquée à la Médecine*, Paris [1799].

³³ Philippe Pinel and Isidore Bricheteau, 'Nosographie'. In: *Dictionnaire des Sciences médicales*, Paris, 1812–1822, vol. 36, p. 251.

achieved such pre-eminence and whose break-through he had essentially helped to bring about was an advance over the purely nosological method. Although he referred to himself as a nosologist, Pinel was basically no longer a nosologist pure and simple in so far as he did not, as did Sydenham and Boissier de Sauvages, renounce as impossible all knowledge of the aetiologies of diseases as a matter of principle. In fact he had made use of the pathological-anatomical method to bolster his nosology. Similarly, Cullen and Erasmus Darwin had already introduced aetiological ideas into their nosologies. Cullen, whose work was translated and propagated by Pinel³⁴ had for instance thought of raising the concept of somatic neurosis to a universal aetiology of diseases. The success of the sthenia-asthenia system of Cullen's pupil John Brown is an indirect measure of the need among nosologists around 1800 for aetiologies of diseases.³⁵ In accordance with this, Pinel saw nosology as a way out of medicine's mistakes of the past.

G.-L. Bayle, the uncle of A. L. Bayle, expressed himself similarly. 'Il faudrait abandonner cette partie de la médecine [nosology] s'il n'y avait aucun moyen de lui donner plus de précision; le professeur Pinel paraît en avoir senti l'absolue nécessité, et sans doute il en développera les moyens . . .' he wrote. Thus he too believed in the basic usefulness of nosology. It might be worth noting that, like many believers in nosology since Sauvages, he too was interested in botany.³⁶ Other scientists who still regarded nosology as the product of resignation that it had originally started out as being felt that it was a blind alley to be got out of with all expediency.

There was, after all, no longer any need for the old resignation; in pathological anatomy a science had been found on which medicine could base itself. What Sydenham had pushed aside as being only of marginal scientific importance to medicine now became a basic science.³⁷ Bichat's 'Qu'est l'observation si l'on ignore là où siège le mal?' is the motto of Broussais' *Examen . . . des Systèmes modernes de Nosologie*,³⁸ which was instrumental in digging the grave of nosology as it used to be understood. Viewed in retrospect, from the point of view of modern somatic medicine, nosology does indeed appear to be a blind alley rather than a stretch of road in the desired direction. In the same measure as medicine has begun to function effectively it has become useless and unnecessary.

However, in certain fields of medicine nosology can be said to have survived. According to Lopez Piñero, dermatology is one of these fields.³⁹ Jean Louis Alibert (1768–1837), known as the founder of French dermatology,⁴⁰ was, in his capacity as dermatologist, a devoted nosologist.⁴¹ The saying which holds that dermatology is

³⁴ William Cullen, *Institutions de médecine-pratique*, transl. by Pinel, Paris-Versailles, 1785.

³⁵ John Brown, *The Elements of Medicine*. (First edition 1780. Many editions in several languages between 1795 and 1805).

³⁶ Gaspard-Laurent Bayle, 'Considérations sur la nosologie, la médecine d'observation et la médecine pratique', p. 507. In: Jean Nicolas Corvisart, *Essai sur les Maladies et les Lésions organiques du Cœur . . .*, Paris, 1855, pp. 501–533.

³⁷ Erwin H. Ackerknecht, *Medicine at the Paris Hospital 1794–1848*, Baltimore, 1967, p. 12.

³⁸ François Joseph Victor Broussais, *Examen de la Doctrine médicale généralement adoptée et des systèmes modernes de Nosologie . . .*, Paris, 1816, title-page.

³⁹ Lopez Piñero, loc. cit., p. 80.

⁴⁰ Fielding H. Garrison, *An Introduction to the History of Medicine*, 4th ed., Philadelphia and London, 1968, p. 417.

⁴¹ Walther Schoenfeld, *Kurze Geschichte der Dermatologie und Venerologie*, Hanover, 1954, pp. 44–45.

a botany of efflorescences is still occasionally repeated by medical men, and indeed, even today dermatology concerns itself with many diseases of which the causes are unknown; thus, Sydenham's resignation and method are still in a certain sense appropriate to it.

Another field in which the nosological method has enjoyed some measure of continuity is psychiatry. The history of the classifications and their originators is an essential part of the history of psychiatry. Moreover, psychiatry is, scientifically speaking, unaware of the aetiology of what are after all its main spheres of activity, i.e. the neuroses and psychoses. Emil Kraepelin (1856–1927), known as the great psychiatric classifier, was obviously conscious of this problem for the whole of his life. As late as the eighth edition of his work (1909–15) we read: 'Even if we have to concede the considerable significance of aetiological research for the delimitation of mental disturbances, we cannot but admit that in the larger majority of these disturbances the causes are still quite unknown . . . Thus, in order to acquire clinical forms we shall be forced to deal primarily with the clinical pictures. Almost all our current notions of diseases, therefore, are infested with the mistakes inherent in symptomatological approach'.⁴² And up to the seventh edition of 1903–4, Kraepelin writes of Linné's system as of something highly desirable.

A systematic classification of mental disorders should, however, 'not yet' be attempted, he writes, but practical requirements demanded 'at least' some sort of rough grouping.⁴³ It is interesting to note by the way that Kraepelin is known not only as a classifier but also as the author of classical descriptions of clinical pictures. Not only the classification of illnesses but also the art of depicting them true to life—like a painter, Sydenham said—has remained a matter of foremost importance in psychiatry.

Clinical psychiatry is still essentially based on Kraepelin's classification, and problems of classification are still one of its main concerns. In the American-English *Glossary of Mental Disorders* of 1968 we read that in psychiatry 'knowledge of aetiology is limited' and that a 'glossary . . . is needed in psychiatry more than in other fields of morbidity'. Classification is regarded as a 'tool of communication'.⁴⁴

The situation which Sydenham and Sauvages encountered in all fields of medicine has more or less continued to exist in psychiatry. This statement must, however, be taken with a grain of salt: in 1822 Antoine Laurent Bayle discovered the pathological substratum of progressive paralysis; in 1863 Kahlbaum found the conceptual tool of the 'Zustandsbild', the notion of the purely symptomatological psychopathological picture with no aetiological implications; iatrochemical, iatrophysical and humoralistic speculations have been replaced by hypotheses better adapted to scientific criticism. Psychiatric therapy has made considerable progress, in particular thanks to a consistent empiricism. And yet the sciences on which psychiatry would like to base itself have up to now been of only limited practical use and have thus remained marginal rather than basic. Resignation in the psychiatry of today expresses itself in ways

⁴² Emil Kraepelin, *Psychiatrie*, 8th ed., Leipzig, 1909–1915, vol. 2, p. 7, trans. by Ch. Trautvetter.

⁴³ *Ibid.*, 3rd ed., Leipzig, 1889, p. 236; 7th ed., Leipzig 1903–1904, vol. 2, p. 2.

⁴⁴ *A Glossary of Mental Disorders*. Prepared by the Sub-committee on Classification of Mental Disorders of the Registrar General's Advisory Committee on Medical Nomenclature and Statistics, London, 1968, p. 1–2.

different from those of the eighteenth century. The possibility that one day scientific insight might be gained into the causes of the disorders called mental diseases is no longer thought to be fundamentally impossible, and it is no longer held to be a sacred duty to restrain one's thirst for knowledge. But a feeling that the scientific achievements of the past do not meet the requirements of psychiatric patients, and a tendency to turn away from the basic medical sciences for practical psychiatric purposes, is widespread among psychiatrists. This feeling has again been voiced quite recently by Prof. M. Bleuler⁴⁵ who for the whole of his life has been a participant, observer and active promoter of scientific progress in psychiatry. Scientific care is still not enough for patients inasmuch as they are psychiatric patients. The young doctor of today who moves on from university to practical psychiatry finds himself in much the same situation as the young doctor described by Sauvages is likely to have experienced with regard to the whole of medicine.

Perhaps for reasons connected with what has been said above, the nosological method has kept its place in psychiatry better than in somatic medicine. 'The method has proved fruitful wherever there was a lack of clear clinical pictures and where pathological anatomy has failed up to now to provide any answers', writes Walther Schönfeld, the historian of dermatology.⁴⁶ Whether it is advisable to speak of the 'fruitfulness' of the method rather than of its simply having survived is another matter. For though it is true that psychiatry has made use of the methods of nosology for longer than somatic medicine and seems by that very fact to distinguish itself from the latter, it seems at least conceivable that this, too, is a transitional phenomenon.

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⁴⁵ Manfred Bleuler, 'Die Entwicklung der Psychiatrie in letzter Zeit und in Zukunft', Vortrag gehalten vor der Gesellschaft der Aerzte in Zürich am 12.6.1969. Paper unpublished as yet.

⁴⁶ Schoenfeld, loc. cit., p. 45, trans. by Ch. Trautvetter.

BICENTENARY OF THE FOUNDATION OF THE MINING ACADEMY OF HUNGARY AT SELMEC

MARIA THERESA, Empress of Austria and Hungary, founded the first Mining Academy of the Empire at Selmeč (German: Schemnitz) in 1770. This was the first technical high school in Austria-Hungary, and the second in Europe, the first being at Freiberg, in Saxonia.

The gold, silver and lead mines of Lower Hungary were well known from the seventh and eighth centuries. During the twelfth and thirteenth centuries, gold and silver mining developed rapidly. Selmeč (Schemnitz), Besztercebánya (Neusohl), Körmöcbánya (Kremnitz), Urvölgy (Herrengrube) and others grew into rich, well-respected mining towns. During the sixteenth and seventeenth centuries, these mines became very advanced technologically and reached their peak in productivity. This prompted Paracelsus to make several extended visits to the region. In 1669, the Medicis gave Niels Stensen 400 gold ducats for the purpose of spending several months at the mines of Lower Hungary to study their geological situation, mining