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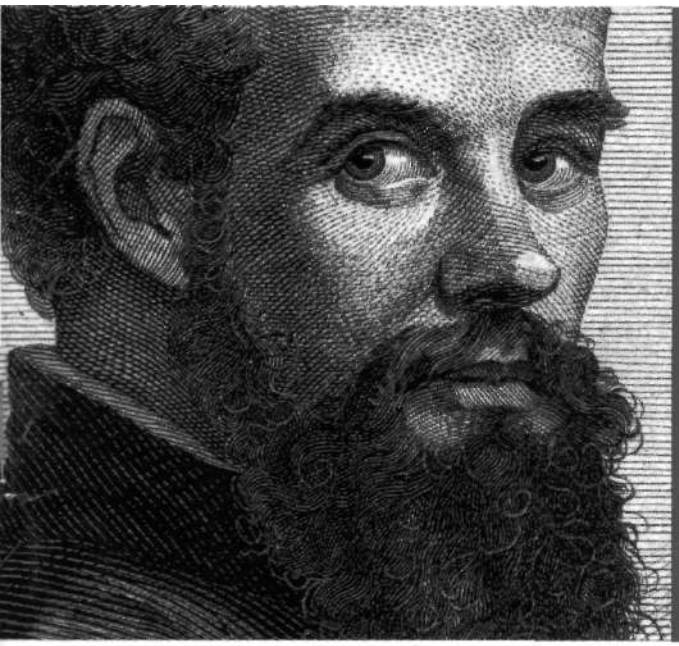

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Editorial

La Bella Diana, our Managing Editor said to me : *Je veux avoir un editorial, court et immediatement, qui le fera ?* She had evidently made up her mind who should do it and that I should do so without delay. I reminded her of Blaise Pascal's observation : *Je n'ai fait celui-ci plus long que parce queje n'ai pas eu le loisir de le faire plus court.* So here it is - *tout court* - on the fourth birthday of *Vesalius.*

Our first number appeared in June 1995, and we have since published 40 peer - reviewed medical history papers (27 in English and 13 in French), encouraged members to visit the medically historic sites of London, Antwerp, Paris and Jerusalem, and brought News from the members countries of Austria, Australia, Belarus, Belgium, Brazil, Bulgaria, Canada, Croatia, Finland, Greece, Israel, Latvia, Poland, Portugal, Slovenia and Tunisia. A *Special Number* of seven papers in French on *"Histoire de la Medecine etJuda'fsme*"appeared in November 1998.

The future of Vesalius is in your hands. Continue to send us your News (more than 40 member countries have not yet done so) and submit your papers now for the last issue of this millenium.

John Cule
Editor

La présidente et le Secrétaire Général de la Société Internationale d'Histoire de la Médecine ont le triste devoir d'informer nos collègues du décès de Mme Leslie Cule, l'épouse de John Cule, ainsi que du décès de Mme Marianne Sournia, l'épouse de Jean-Charles Sournia.

Avec l'ensemble de nos membres, nous souhaitons exprimer à John Cule et Jean-Charles Sournia, anciens présidents de notre Société, nos très sincères condoléances et leur transmettre un message de vive sympathie pour ce deuil qui vient de les frapper et pour les moments difficiles qu'ils vont devoir prochainement affronter.

The President and the General Secretary of the International Society for the History of Medicine have the sad duty of informing our colleagues of the death of Mrs Leslie Cule, wife of Dr John Cule, and the death of Mrs Marianne Sournia, wife of Dr Jean-Charles Sournia.

On behalf of all our members, we wish to express our condolences to Dr John Cule and Dr Jean-Charles Sournia, both Past Presidents of the Society, on the occasion of this great loss, and wish them well in the difficult weeks ahead.

Alain Lellouch
General Secretary

Ynez Viole O'Neill
ISHM Président

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Getting a feel for percussion

O.R. McCarthy

Summary

When Auenbrugger introduced percussion it was direct or immediate percussion of the chest. Corvisart was the first to recognise that percussion not merely gave a sound but also a sensation to the percussing fingers. When Piorry introduced mediate percussion the sensation was more readily appreciable.
However, there were many astute clinicians who ignored the sensation and these included Stokes, Hope, Latham and Gerhard. To this day some popular handbooks of physical signs do not mention this valuable component of percussion.

Résumé

Quand Auenbrugger popularisa la percussion, il s'agissait alors de la percussion directe ou immédiate de la poitrine. Corvisart fût le premier à reconnaître que la percussion générait non seulement un bruit mais aussi une sensation aux doigts percuteurs.
Quand Piorry introduisit la percussion indirecte, la sensation devint plus facile à apprécier. Cependant il y a eu beaucoup de cliniciens avisés qui n 'en tinrent aucun compte, y compris Stokes, Hope, Latham, Williams et Gerhard. Même aujourd'hui, certains manuels connus des signes vitaux ne mentionnent pas cet outil précieux qu'est la percussion.

When Leopold Auenbrugger published his *Inventum Novum* in 1761 he gave a clear description of percussion and its technique. It was immediate or direct percussion of the chest wall. The thorax of a healthy person sounds, when struck'; (1) and 'The thorax ought to be struck, slowly and gently, with the points of the fingers, brought close together and at the same time extended'. (2) He also noted : 'If a sonorous region of the chest appears, on percussion, entirely destitute of the natural sound - that is, if it yields only a sound like that of a fleshy limb when struck, - disease exists in that region.' (3) He encouraged practice : 'Any healthy person may make experience of percussion in his own person or that of other sound subjects; and will thus be convinced, from the variety of the sounds obtained, that this sound is not to be despised in forming a diagnosis'. (4) His slim volume of 95 pages was the outcome of seven years 'observation and reflexion' [sic]. It contained no mention of the sensation transmitted to the fingers by percussion but he made no claim for this to be the last word on the subject: 'And here, lest any one should imagine that this new sign has been thoroughly investigated, even as far as regards the diseases noticed in my Treatise, I think it necessary candidly to confess, that there still remain many defects to be remedied - and which I expect will be remedied - by careful observation and experience'. (5)

His treatise was published widely, as has been pointed out by Bishop. (6) A second impression of the first edition was made in 1761 and a second edition was published in 1776. (7)

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A French translation of the original Latin was published in Paris in 1770, by Roziere de la Chanssagne (8), who did not understand percussion and confused it with succussion (a splashing sound heard when a patient with an air-fluid level in the chest is gently rocked), and a Latin reprint was included in a three volume work published by Wasserberg in Vienna in 1775 (9). In addition, it was referred to widely. Thus it was reviewed in August 1761 in the *Public Ledger,* a London daily newspaper. There is convincing evidence that the reviewer was Oliver Goldsmith (1728-1774) (10), who had studied medicine in Dublin and Edinburgh in the 1750s. He gave a clear description of the work in some 800 words ending :

> *'Such are the outlines of this new discovery: whether it may be of use to society or not, there is no necessity for me to pretend to determine, only this may be observed, that the lungs are often, even in the most healthy state, found to adhere to the pleura, and in such a case, I fancy the sound would, in that part, deceive the practitioner; however, I shall not pretend to set my conjecture against his experience. Upon the whole, it is a trial that may be easily made, and to borrow an expression from Dr Rock, «If it cannot cure, it can do you no harm».'(11)*

Dr Rock was a quack previously ridiculed by Goldsmith. In addition, Cullen (1710-1790) referred to percussion in his *First Lines of the Practice of Physic* in editions after 1778 (12) and Munro secundus (1733-1817) mentioned it in his lectures, probably in 1772. (13) Albrecht von Haller (1708-1777) (of Berne, previously Gottingen) wrote a very sympathetic review and Ch. G. Ludwig in Leipzig was also enthusiastic.(14)

Nevertheless, his seniors in Vienna, Gerhard van Swieten (1700-1772) and Anton de Haen (1704-1776) were not impressed. They cannot have been unaware of his experiments and it is surprising that van Swieten in particular, who had been a pupil of Boerhaave, and who practised abdominal percussion himself, (15) failed to appreciate the brilliant innovation. Anton de Haen, who succeeded van Swieten as Professor and shares with him the credit for starting the renowned Vienna School of Medicine, ignored it totally; an attitude perhaps more easily understood because of his life-long contempt for anything new. (16) The physicians' concepts of disease in the eighteenth century had no place for percussion and they remained reluctant to examine patients.

However, 1761 was also the year of publication of Morgagni's (1682-1771) *De sedibus et causis morborum,* which linked morbid anatomy with symptoms and clinical findings. When this approach to medicine began to be adopted at the end of the eighteenth century percussion became excitingly relevant. J.N. Corvisart (1755-1821) was professor of clinical medicine in Paris at the turn of the century, and at the centre of these changes. He became aware of Auenbrugger's work through reading (and later translating) Stoll's *Aphorisms.* Having practised and taught percussion for twenty years he then, in 1808, translated Auenbrugger's treatise into French and added a substantial commentary of his own, thus quadrupling the text. It was accepted enthusiastically ; by 1820 Dr James Clark (1788-1870) was reporting : 'A patient brought to any of the hospitals of Paris with any affection of the chest, is as regularly submitted to this process (percussion) as the English physician would ascertain the state of the pulse'. (17)

One of Corvisart's commentaries is of particular interest: 'But I would add, that, even in those parts of the chest whence, for the reasons stated hardly any sound can be elicited, an experienced operator can generally judge of the state of the parts within from the peculiar and indescribable sensation conveyed by the fingers'. (18) This appreciation of the tactile component of percussion does not seem to have been developed by Corvisart, but it did not escape the

attention of his former pupil RTH Laennec (1781 -1826). Although the first edition (1819) of *De I'Auscultation...* contained no reference to it (this may not be surprising as in the first flush of the new physical signs there was much to be discovered and recognised). However, Laennec wrote in the second edition (1826), following Auenbrugger's recommendation that either the patient wear a shirt or the operator a glove to prevent the noise of contact interfering with the percussion note : 'It is better that the chest be covered and the hand naked, since the glove necessarily diminishes the sensibility of thetouch, and because the sensation of elasticity perceived by the operatorfrequently confirms his judgement in cases where the difference of sound is only doubtful. In every case the perception of the sense of fullness or emptiness conveyed by percussion, is much stronger to the operator than to the mere bystander'. (19) John Forbes (1787-1861) started his renowned series of translations in 1821, making the descriptions of the new skills of physical examination of the patient available in English; he would have become aware of the tactile component of percussion from this translation and that of Corvisart earlier in 1824 (20). Forbes, together with Conolly and Tweedie, edited and published, in 1833-1885, the *Cyclopaedia of Practical Medicine,* a detailed and wide-ranging series of articles reflecting the best medical practice of that time in Britain. Forbes wrote the lengthy section on percussion, commenting :

> *'in practising percussion, the operator does not form his judgements exclusively from the nature of the sounds elicited. He judges equally from the tactual sensation communicated by the part struck, to the finger; and it sometimes happens that this latter sensation is the more important of the two. For this good reason a bystander can never be so good a judge of the state of parts percussed as he who operates' .(21)*

Clearly Corvisart, Laennec and Forbes are describing the same finding. From their descriptions there can be no doubt that they had become aware of the tactile sensation of percussion and were agreed on its characteristics. They will have used it in their practice and steadily increased their skill in recognising the subtle differences found. They were, of course, using direct percussion; their task was to become easier with the introduction of mediate percussion.

In 1826, less than six months before his death, Laennec was present when Pierre-Adolphe Piorry (1794-1879) first announced his new method of percussion: mediate percussion, (22) in which a small thin plate is placed on the chest wall to be struck by the percussing finger. A variety of substances including wood, cork, leather, horn and rubber were tried but Piorry's favourite was ivory. The plate was referred to as the pleximeter and the striking finger as the plexor. Direct percussion was clumsy, uncomfortable or even painful for the patient; it was inaccurate and time consuming. Chevallier (a pupil of Piorry) wrote in 1833 that he found it difficult to get his friends to allow him to practise percussion on them : 'After giving them the first stroke, my colleagues became quite disgusted with the method, although they were most willing to help me and I had employed all the care of which I was capable' .(23) Mediate percussion overcame these disadvantages and quickly became the method of choice. It was but a short step to use fingers both as pleximeter and as plexor. In his treatise of 1828 Piorry refers to several English and American doctors seeking to simplify mediate percussion by using the fingers thus, but it was not his choice. (24) Lesky credits David C. Skerrett of Pennsylvania (1797-1873) with this advance (but gives no reference) .(25) Dr CJB Williams (1805-1889) also refers to Skerrett in this context (but calls him an English physician). (26) It may be that several different physicians in different places progressed to this method at about the same time. Certainly Hope (1801 -1841) was using it in 1831 (27) and probably Stokes (1804-1878)

(28) also. Williams, writing in 1833, refers to having used mediate percussion for four or five years and that using the fingers of the left hand as pleximeter is :

'...so much more prompt and handy, that I have no doubt of its general adoption, to the exclusion of other modes'. (29)

Though initially the tactile component of percussion could only be perceived by the striking fingers in direct percussion, the use of the finger as a pleximeter enabled the sensation to be detected by the fingers of both hands. Winterich, who invented a small hammerfor use as a plexor was able to sense a feeling of resistance through it (30) but finger-to-finger percussion became the general practice. By the 1830's the technique of percussion as used to this day had evolved and has not changed since.

However, there was a small group of skilled physicians who appear to have ignored the tactile sensation and it is not mentioned in their writings. The group included William Stokes, James Hope and Peter Latham (1789-1875). In his 1825 treatise on the stethoscope (31) Stokes included six and a half pages on percussion, but makes no mention of finger sensation. Yet, it was early in his career; he was still a student and his experience was thus limited. A decade later in his *Treatise on Diseases of the Chest* (32), published in 1837 and widely acclaimed, he again (though by then it was no novelty) ignores it in a lengthy section on percussion. The book, having been unavailable for some time, was republished in 1882 after his death by the New Sydenham Society. Stokes had not wanted to rewrite it (for a second edition) at an advanced age, so instead he asked Dr Alfred Hudson (1808-1880) to edit a reprint of the first edition and to include some additions which he (Stokes) had made. It also contained a memoir of Stokes' life by Henry W. Acland FRS (1815-1900). In this volume, in a footnote, Hudson takes him to task for making no mention :'… of the feeling of resistance communicated to the finger in degree differing in different disease conditions'.(33) Further, Stokes writing about signs referable to acoustics states : These have been hitherto divided into those obtained by *percussion* and by *mediate or immediate auscultation;* a division which seems to be unnecessary, as both classes of signs being appreciable by the ear alone should be ranged under the general head of *auscultatory phenomena'* (34). It seems clear that Stokes did not appreciate finger sensation in percussion.

He may have been hindered by his technique; W. H. Walshe (1812-1892) wrote;

'Whatever pleximeter be employed it should be placed in accurate and firm contact with the surface : for this reason it appears advisable to apply the palmar, and not the dorsal surface of the finger to the chest, when this is the pleximeter used. No extrinsic condition modifies the sound so much as the amount of force with which the pleximeter is applied to the surface; and the finger with its dorsal surface turned to the chest is, in this point of vie w, com para tively unmanageable. The validity of this objection is however not universally felt; M. Louis, among others, very frequently percusses in this way, and Dr Stokes appears to prefer it'. (35)

It may also be that the tactile sensation is more readily felt by some. Walshe writes :

'... that doubt often exists as to whether the relative resonance on the two sides is unquestionable; and in these cases the condition of the subjacent points may frequently be settled by taking into consideration tha amount of resistance. To those persons whose sense of touch is more delicate than a sense of hearing, this source of diagnosis is of especial value'.(36)

H.M. Hughes (37) wrote about distinguishing solid from fluid by combining palpation with percussion. The capacity, however, of appreciating this difference, which is merely one

of degree, is not likely to be obtained but by long habit and experience, and cannot always be appropriated by the most skilful of auscultators' [sic].

Hope devoted more than two pages in his *Treatise on the Diseases of the Heart and Great Vessels* (1832) to percussion but made no reference to finger sensation.(38) Lathamwrote in 1836

> *'But percussion and auscultation are often spoken of, as if they were different things, whereas they are only different modes of appealing to the same sense; for we gather information equally from what we hear, whether we strike the chest or apply our ear to it, or use the instrument'. (39)*

Charles Williams occupies a more ambiguous position for, when writing in 1828 about Laennec's remarks on the vibratory sensation felt by the percussor, he (Williams) added '...to those who have sufficient nicety of tact to perceive this distinction, it may give additional evidence not without its value'. (40) Clearly he knew about finger sensation but surprisingly he made no reference to it in his lectures to students given in 1836 and 1837 (41), nor in a more detailed paper on percussion in January 1837 (42), nor again in his ample account of percussion in his contribution to Tweedie's *Library of Medicine* (1840) (43). If he did not teach it, did he not believe in it ? Skoda, eager to move on from French empiricism to establishing firm scientific foundations for physical signs, acknowledges the superiority of mediate percussion : The pleximeter renders percussion much less irksome to the patient, and the sounds more distinct', and noted that Piorry : '... who pointed out the fact that in percussing the various organs different degrees of resistance are felt by the fingers; and it would seem as though he considered this resistance of more importance than the percussed sound'. (44) But Skoda makes little further comment and seems less than enthusiastic.

Piorry, writing in 1831, remarks how he came to realise that the reason why his students (listening to him percuss) did not recognise the resonance, which he found so clearly, was because he was feeling the degree of resistance through his finger; when they used the pleximeter they in turn became aware of the sensation. He went on to draw an elegant analogy with that of taste, where two sensations perceived by two distinct organs merge into a single impression. (45)

Paul Guttmann (1834-1893) wrote a very successful *Handbook of Physical Diagnosis* first published in 1871 in German and subsequently translated into six other languages. The New Sydenham Society published the English translation of the third German edition in 1877. The chapter on percussion includes more than two pages devoted to 'The Sense of Resistance Accompanying Percussion'. He concluded that when the utmost precision is required :

> '... *it is better to use the finger... as by this* tactile *system of percussion the slight resistance of parts permeable to air and the greater resistance of those which are impermeable, are most distinctly appreciable'. (46)*

The 'first American textbook to incorporate the newer methods of physical diagnosis' (47) written by Gerhard and published in 1846 (48) failed to mention finger sensation in percussion, but this oversight was corrected by Flint: 'In addition to the acoustic phenomena produced by percussion, with the fingers applied to the chest wall instead of a pleximeter the percussor can appreciate an abnormal *sense of resistance* in certain conditions of disease'.(49) By the second half of the 19th century, in Europe, Britain and America, the tactile component of percussion would seem to have become an established, if subtle, diagnostic physical sign.

In the 20th century the introduction of x-rays resulted in an entirely different setting for the

diagnosis of chest diseases. It was no longer necessary to force percussion and auscultation to the limits of their capability, but they did not lose their importance. It was now possible to achieve a substantial improvement in the interpretation of the physical findings. In spite of the immense improvements in science in this century, it was reported in 1995 that 'chest percussion has not been evaluated by modern acoustic means, so that our present knowledge of the method does not consistently differ from the 19th century approach.' (50) In 1908 Samuel Gee (1839-1911) wrote enthusiastically about percussion with a clear understanding of the importance of finger sensation. (51) In 1920, Hoover (1865-1927), who has been referred to as 'the supreme embodiment of the clinician's art,' (52) wrote with greater intensity about the tactile component, (which he referred to as 'definitive percussion') in relation to mapping the heart size. (53) In contrast, in 1945, Lyle Cummins (1873-1949) was surprisingly timid when he wrote :

> *'There is, I think, a sensation to be gained with the finger pleximeter which lends a definite precision to the method; a sensation which tends to be lost with the ivory instrument. This however is an individual opinion and must be taken as such.' (54)*

(Lyle Cummins was not timid by nature. Born in 1873, he served as a regimental medical officer at the Battle of Omdurman (1898) and before he retired from the Army in 1921 had been mentioned in despatches six times. Subsequently he was professor of Tuberculosis at Cardiff).

The tactile conponent of percussion is not mentioned in Keele's excellent monograph *The Evolution of Clinical Methods in Medicine* (1963), (55) nor by Nicolson in his chapter 'The introduction of percussion and stethoscopy to early nineteenth century Edinburgh' in *Medicine and the Five Senses* (1993).(56) It is interesting to see in the first edition of Hutchinson's *Clinical Methods* in 1897 (57) a reference to it:

> *'Most physicians, however, prefer to make use of the middle or forefinger of their left hand as a pleximeter, and the preference is due not only to the fact that it can be readily adapted to almost any surface, but also that it conveys information additional to that obtained by the percussion sound, as it takes cognisance of the different degrees of resistance which the tissues offer to the percussion note.'*

Resistance continues to feature in each edition through to the latest, the 19th edition, published in 1989.(58) In contrast, *MacLeod's Clinical Examination,* from Edinburgh, first published in 1964 (59) up to the latest 9th edition in 1995 (60) does not refer to finger sensation in percussion at all. Another popular text of clinical signs, Chamberlain's *Symptoms and Signs in Clinical Medicine* refers to : '... an increased sense of resistance to the fingers due to a loss of resilience in the tissues.' (61) This appears in the first eight editions, (62) but the 9th (1974) (63) to the 12th editions (1997) (64) have dropped any reference to finger sensation in percussion.

It is reassuring to find that the *Oxford Handbook of Clinical Medicine,* (65) a current best-seller pocket book, popular with house officers, advises the clinician to 'Listen and *feel'* when percussing'. The art lives on.

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Biographical Note

The author is a retired general physician who had a special interest in diseases of the chest. On retirement he was able to develop his interest in the history of medicine which has included taking the Diploma in the History of Medicine of the Society of Apothecaries of London.

L'humanisme médical à la Faculté de Médecine de Paris : cent ans d'histoire (1795-1898)

A. Lellouch

Résumé

De tumultueux rapports s'instaurèrent, au XIXe siècle, entre les Pouvoirs publics, la Faculté de Médecine de Paris, ses professeurs, ses étudiants et la presse, tant médicale que générale. L'enjeu de ces intenses débats toujours d'actualité portait sur l'utilité ou non, pour les étudiants en médecine, d'un enseignement historique. Ce travail veut faire revivre les éléments de ce débat au travers d'une série d'écrits : Nouveau Plan pour la constitution de la Médecine en France; textes réglementant la création (1795), la suppression (1822), puis la restauration (1870) de la chaire parisienne d'histoire de la médecine; rapport Guérin relatif à la réorganisation de la Faculté de Médecine de Paris (1830); pétitions du Dr Dézeiméris au Ministre de l'Instruction publique, enfin, débats et controverses au sein de la presse tant générale que médicale (1837). Tout au long de cette période historiquement agitée, les différents arguments des opposants et des partisans de l'humanisme médical nous ont paru suffisamment riches d'enseignements actuels pour être ici rapportés.

Summary

During the nineteenth century, tumultuous relationships existedbetween the public authorities, the Paris Médical Faculty, itsstudentsandteachers, the médical and the popular press. Thèse agitated debates concerned the the value of teaching history in médical studies. This paper aims to follow the main steps of thèse debates through various texts : the new plan for the structure of Medicine in France (1790); the création (1795), suppression (1822) and restoration (1870) ofthe Paris chair of the History of Medicine; Guerin 's report (1830) concerning the a new reorganization of the Paris Médical Faculty; Dr Dézeiméris's pétitions (1837) addressed to the French Minister of State for Education. Thèse debates remain topical and instructive.

Histoire et culture générale doivent-elles être réintroduites dans les études médicales ? Ce débat ré-émerge en France, à la fin du XXe siècle, face à une médecine devenue de plus en plus technique. Mais il n'est pas nouveau. Ainsi, à Paris, tout au long du XIXe siècle, une série d'écrits illustrent les tumultueux rapports tissés, à Paris, entre Pouvoirs publics, Faculté de Médecine et presse au sujet de l'enseignement de l'humanisme en faculté de médecine. Analyser l'essentiel de ces textes nous semble encore aujourd'hui riche d'enseignements.

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Le Nouveau plan de constitution pour la Médecine en France (1790) (7)

En 1790, le fameux médecin anatomiste français Vicq- d'Azyr (1748-1794), fondateur de la Société Royale de Médecine, dressait un *Nouveau plan de constitution pour la Médecine en France.* En partie première : *De l'Enseignement de la Médecine et de tout ce qui le concerne,* et en section II : *De l'Enseignement en particulier,* il rappelait les "cinq principaux chefs" sur lesquels "doit s'exercer l'enseignement" dans les Collèges de Médecine :

Connaissance de l'économie animale ;

Connaissance des substances... dont l'action

influe sur cette économie;
Choix des moyens propres à conserver le corps dans l'état de santé;
L'examen des diverses maladies, de leurs symptômes, de leurs indications, et des remèdes...;
Enfin, Histoire de la Science elle-même.
Ces "cinq chefs" d'enseignement permettaient ainsi de définir un "ordre" et un "partage" des enseignements. En 16e position figurait l'Histoire de la Médecine après la Clinique (au 15e rang).

Vicq-d'Azyr s'interrogeait ensuite sur les "motifs (qui).., écrivait-il, nous ont déterminés à réunir ensemble plusieurs parties de l'enseignement" : *"Qui pourra mieux indiquer la méthode d'étudier la Médecine, que le professeur d'Histoire, aux yeux duquel sera toujours présente la succession des travaux qu'on a entrepris pour en hâter le progrès ?"* Il voulait ainsi confier au même enseignant les "Leçons sur l'Histoire de la Médecine et de la Chirurgie" et l' "Enseignement de la méthode d'étudier et d'observer". En effet, *"ce sujet est un des plus philosophique qu'il soit possible d'offrir à la méditation des élèves".* Et pour prévenir toute objection, il écrivait encore : *"Qu'on n'objecte pas que plusieurs des sciences comprises dans notre Tableau, telles que la Zoologie et l'Histoire de la Médecine, n'offrent point des connaissances essentielles à ceux qui se destinent à... notre Art. . . . . .dans un enseignement public qu'on doit supposer complet dans les Collèges, il ne faut pas seulement pourvoir à l'instruction de ceux qui ne portent point leurs vues au delà du nécessaire; qu'il faut encore préparer aux esprits plus actifs une moisson plus abondante... que le professeur d'Histoire de la Médecine et du Methodus studii Medici deviendrait, pour les Elèves, un Conducteur utile,..."*

Un enseignement nécessaire mais toujours menacé

Les bouleversements provoqués par la Révolution française de 1789-1795 n'empêchèrent pas la mise en oeuvre du Plan Vicq-d'Azyr. Le *décret du 14 frimaire an III* (1795) créait, en pleine Convention, une chaire de Médecine légale et d'Histoire de la Médecine. Jean Goulin (1728-1799) en fut le premier titulaire. Il était chargé effectivement de l'enseignement de l'histoire de la médecine. Cet érudit, versé dans l'étude littéraire du grec, du latin et de l'arabe fut aussi l'auteur d'un *Cours d'Histoire de la Méde*c/nequ'onpeutconsulteraujourd'hui en France, dans la Bibliothèque municipale de Reims. Goulin exerça ses fonctions de 1795 à 1799. A sa mort, en 1799 et jusqu'à 1808, le célèbre médecin philosophe et homme politique Cabanis (1757-1808) lui succéda. Mais la carrière politique de Cabanis puis des troubles de santé l'éloignèrent de l'enseignement.

Depuis 1795, un obscur bibliothécaire, Moreau de la Sarthe (1771 -1826,) avait été chargé des fonctions d'enseignement. Cependant, depuis la mort de Cabanis (1808) et jusqu'à l'année 1818, tout cours officiel d'histoire de la médecine avait disparu. Aussi, le ministre de l'époque se crut-il obligé de prévenir la Faculté de l'imminence de la suppression de la chaire. Moreau de la Sarthe ne pouvait se résoudre à cette disparition. Répétiteur bénévole, il créa de lui-même un cours de bibliographie médicale. Il fut bientôt récompensé de cette initiative par la Commission d'Instruction publique. *L'arrêté du 8 décembre 1818* réunit l'enseignement de l'Histoire de la Médecine et celui de la bibliographie médicale. Moreau en fut chargé officiellement jusqu'en 1822. *L'arrêté du23 février 1819* transforma l'ancienne chaire de Médecine légale et d'Histoire de la médecine devenue vacante en chaire de Médecine légale et de Pathologie spéciale, relative aux maladies mentales. Durant la Restauration monarchique, les *ordonnances royales du 21 novembre 1822* (rendues sur un rapport du Ministre de l'Intérieur Cornières) et *du 5 février 1823* osaient amputer les Facultés de leurs prérogatives traditionnelles de nomination des professeurs. Le pouvoir politique voulut mater l'opposition universitaire; il

décida donc de la réorganisation de l'ensemble de la Faculté de Médecine : neuf professeurs, opposants politiques notables furent révoqués et leur chaire supprimée. Ce fut le cas de Chaussier, Desgenettes, Dubois, Jussieu, Pinel, Vauquelin et... Moreau de la Sarthe. L'évincement de ce dernier entraîna ipso facto la suppression de la chaire d'Histoire de la Médecine et de Bibliographie médicale.

Le Rapport Guérin et la nouvelle organisation de la Faculté de Médecine (1830). (6)

L'intrusion du pouvoir royal dans les affaires de l'Université fit l'effet d'une bombe. Elle fut à l'origine d'une intense période d'agitation professorale et estudiantine, à la Faculté de Médecine de Paris. Après la chute de Charles X, lors des trois Glorieuses de juillet 1830, le gouvernement du nouveau roi Louis-Philippe voulut faire preuve de libéralisme. Le ministre de l'Instruction Publique nomma alors une commission médicale chargée "de l'examen préparatoire de toutes les questions relatives à l'organisation de la Faculté de Médecine de Paris" (6)

La commission, présidée par le baron Cuvier, eut pour rapporteur Guérin et pour membres Andral, Cloquet, Duméril, Husson et Richeran. Bien sûr, sa première proposition fut de restaurer les prérogatives universitaires violées par le pouvoir royal : *l'ordonnance du 5 octobre 1830* réintégrait les professeurs évincés en 1823. Mais, en histoire de la médecine, le pauvre Moreau ne survécut pas à sa proscription et, depuis son évincement, l'enseignement de la discipline périclitait : tout enseignement officiel d'histoire de la médecine émanant de la chaire disparut jusqu'en 1870. Pourtant, la Commission (6) n'avait pas fait que proposer la réintégration des professeurs évincés. Elle conçut aussi un véritable *"Plan d'organisation de la Faculté de médecine de Paris"* prônant la reprise de l'enseignement de l'Histoire en Faculté de Médecine : *"On pourrait regarder, expliquait le rapporteur, la création d'une chaire d'histoire de la médecine comme un simple rétablissement de ce qui était. La division adoptée par l'ancienne Faculté porte en effet une chaire de bibliographie et même d'histoire de la médecine. Cette chaire qu'on avait regardée jusque là comme d'une utilité tout à fait secondaire doit, éclairée par l'esprit philosophique de notre époque, jeter le plus grand éclat sur la science, et raviver des germes sous des débris ignorés".*

Et le rapporteur de poursuivre : *"C'est moins l'histoire des livres que des choses qu'elle aura pour objet; et, s'il est vrai que le cercle des erreurs serait aussi borné que le cercle des vérités, ce serait déjà rendre un grand service à la médecine que de l'avertir et que de la garantir, par les révélations de l'histoire, du retour des erreurs passées".*

Le rapport Guérin (6) proposait ainsi la rénovation de l'ensemble de l'enseignement en Faculté de Médecine. Dans son esprit, ce qui avait trait au passé (le projet de restauration de la chaire d'histoire des sciences médicales) revêtait la même importance que les propositions de développement d'enseignements novateurs : fusion des chaires de "matière médicale" et de "pharmacie", surtout, création des nouvelles chaires de "thérapeutique et pathologie générale", d' "anatomie générale comparée et pathologique", de "clinique spéciale des maladies des enfants", enfin de "clinique des maladies cutanées, syphilitiques et scrofuleuses".

Pour la chaire d'histoire de la Médecine, comme pour les autres chaires, le rapport (6) détaillait les modes de nomination des professeurs, le nombre d'heures et la place de l'enseignement dans le cursus des études de Médecine. L'histoire s'enseignait ainsi en fin de scolarité, en cinquième année, en même temps que la "clinique" et les "accouchements". Mais le plan Guérin (6) concernant l'enseignement de l'histoire en Faculté de Médecine ne fut pas retenu par la Monarchie de Juillet (1830-1848). Il fallait alors pallier la disparition persistante de

la chaire. Des cours privés furent donc dispensés par plusieurs personnalités passionnées par le sujet. Ce fut le cas notamment de Dézeiméris, Daremberg et Littré... Si ces deux derniers médecins sont bien connus aujourd'hui, le premier l'est beaucoup moins. Dézeiméris s'illustra surtout par une pétition au Ministre de l'Instruction publique de l'époque. Il réclamait le rétablissement de la chaire d'histoire de la médecine et la réintroduction de l'enseignement de l'Histoire, en Faculté de Médecine. Pour parvenir à ses fins, il n'hésita pas à entreprendre une vaste campagne dans la grande presse. Celle-ci lui fut très vite acquise; par contre, le débat fut bien plus rude avec le monde médical et la presse professionnelle. Le journal de la *Presse médicale* mettait en doute l'utilité de l'enseignement de l'histoire de la médecine et souhaitait que cette utilité fût prouvée avant qu'il ne fût publiquement rétabli en Faculté de Médecine... Le Dr Dézeiméris allait administrer de telles preuves...

Mais qui donc était Dézeiméris ?

Jean Eugène Dézeiméris était fils et petit-fils de médecin. Il était originaire de la Dordogne et avait fait ses humanités classiques à Bergerac et Bordeaux. Il avait acquis la réputation d'un érudit et d'un beau parleur. Attiré par Paris, il y monta pour entreprendre des études de médecine. En 1828, alors qu'il n'était encore qu'étudiant, il commença à publier, chez Béchet jeune, jusqu'en 1838, les 4 volumes d'un *Dictionnaire de la Médecine ancienne et moderne* (4). En 1830, Dézeiméris réussissait le concours de bibliothécaire à la Faculté de Médecine de Paris. Le titre de son mémoire de concours s'intitulait : *Aperçu des découvertes faites en Anatomie pathologique durant les trente années qui viennent de s'écouler et de leur influence sur le progrès des connaissances et le traitement des maladies.* La Commission de l'Académie le considéra alors comme l'élève ayant montré *"le plus de savoir en littérature et en philosophie médicales".* Nommé d'abord sous-bibliothécaire en 1830, il devint bibliothécaire titulaire en 1836, en remplacement de Mac Mahon. Sa thèse inaugurale (28 pp.) de 1832, soutenue à Paris, s'intitulait : *Quelques réflexions sur l'Histoire de la Médecine* (2). Ardent polémiste, Dézeiméris n'hésita pas à interpeller directement le ministre de l'époque Salvandy et, pour obtenir gain de cause, par voie de presse, il sut porter le débat sur la place publique.

Les pétitions de Dézeiméris au Ministre Salvandy (1837).

Les Lettres sur l'Histoire de la Médecine et sur la nécessité de l'enseignement de cette Histoire constituent, de notre point de vue, l'ouvrage le plus intéressant de Dézeiméris. Constituées de 382 pp. et de trois chapitres, ces *Lettres* furent publiées à Paris, en 1838, par l'auteur.

Au chapitre I, se retrouvait le texte intégral des deux pétitions adressées en avril, puis en juin 1837 par Dézeiméris à Salvandy, ministre de l'Instruction Publique. Les pétitions réclamaient le rétablissement d'un enseignement normal d'histoire de la médecine à la Faculté de Paris. Elles furent suivies des réponses (ambiguës, embarrassées et contradictoires) du Ministre qui ne donna pourtant jamais une suite favorable à la demande de Dézeiméris. La première pétition attirait l'attention du ministre sur le caractère brillant de l'enseignement en Faculté de Médecine mais aussi sur la grave lacune qu'il comportait : *"Entre toutes les universités de l'Europe les plus célèbres, la Faculté de médecine de Paris brille par la richesse de son enseignement et (par) la grande multitude de disciplines. Mais une lacune existe au milieu de ce vaste enseignement et, en un point, la Faculté de médecine de Paris reste au-dessous de toutes les universités de l'Allemagne : l'histoire de la médecine et de la bibliographie médicale ne sont point enseignées en France"* Dézeiméris dressait alors un bref historique de la chaire disparue avec la mort de Moreau de la

Sarthe et écrivait avec fougue : *"Quoique veuve de son titulaire, la chaire d'histoire et de bibliographie ne cessa donc point de subsister légalement et, comme telle, c'est par concours qu'elle doit être pourvue d'un professeur".* La requête de Dézeimeris (1837) succédait aux recommandations du rapport Guérin (1830), à une demande de la Faculté de médecine, via une pétition de Broussais (1831) et, au voeu exprimé (1835) par 21 professeurs de médecine, *"devoir rétablir et mettre au concours la chaire devenue vacante de Moreau de la Sarthe".*

Le 13 mai 1837, la réponse du ministre fut brève : il regrettait, s'attristait mais se retranchait derrière l'avis défavorable du Conseil Royal et de celui de la Faculté. En fait, remarquait publiquement Dézeimeris, les deux instances n'avaient pas été vraiment consultées : *"Un seul homme, à la faveur de son double titre de représentant de la Faculté et de membre du Conseil, avait pris sur lui de faire prononcer les instances en leur nom".*

Le 20 mai 1837, via le Bureau des Universités, le Ministre adressait toutefois à Dézeimeris une seconde réponse : les motifs paraissaient *"dignes d'être pris en considération"* mais, comme bien souvent, le projet buttait sur une insuffisance de moyens financiers impossibles à débloquer : *"....la mesure que vous proposez ne saurait être exclusivement applicable à l'Académie de Paris. Les autres Facultés de Médecine sont également intéressées à obtenir dans leur enseignement toutes les améliorations désirables. La question entraîne dès lors des conséquences financières qui, jusqu'à présent, n'ont pas été prévues au Budget de l'Etat".* Et, en contradiction avec sa première réponse, le ministre ajoutait : *"Pour qu'il fût d'ailleurs possible de donner quelque suite à votre demande, il eût été nécessaire que la Faculté à laquelle vous êtes attaché en eût préalablement délibéré d'une manière spéciale"* Alors, Dézeimeris comprit vite qu'il fallait, pour être entendu, expliquer au Ministre l'utilité, pour le futur médecin, d'un enseignement en histoire de la médecine. Dans la 2è pétition adressée à Salvandy, en juin 1837, notre médecin bibliothécaire opposait, *"l'observation scientifique directe"* ou expérimentale (pratiquée en anatomie, physiologie, sémiologie, clinique et chirurgie) et *"l'observation reçue"*(histoire). Il s'agissait alors de *"sciences où les faits susceptibles d'être soumis à l'observation directe sont les moins nombreux et où l'expérience est interdite par la nature même de l'objet même des études. • Ici, l'élément historique acquiert nécessairement la prépondérance qu'avait l'observation directe dans les sciences indiquées précédemment".* La médecine (plus que la chirurgie) avait ainsi besoin, selon Dézeimeris, de se référer à *"un enseignement historique de ce qui a été observé, expérimenté, pensé"* dans le passé. En bref, pour notre auteur, *"repousser l'histoire du nombre des études médicales, c'est anéantir une partie considérable de la science et de l'art".*

Les Anciens, par exemple, avaient trop *"sacrifié l'histoire à l'observation",* ne jurant plus que par Hippocrate et surtout Galien. L'erreur des Modernes était de commettre *"l'excès opposé".* Du fait de *"l'enthousiasme qu'excitèrent les découvertes dues à l'étude directe de la nature et à l'application de la méthode expérimentale",* on se mit alors à *"sacrifier l'observation à l'histoire".* Pour Dézeimeris, il faut que le *"médecin... reconnaisse la nécessité plus impérieuse et plus pressante que jamais... de renouer avec le passé de la chaîne des observations".*

L'histoire des sciences médicales n'était alors enseignée, en France, ni dans des livres spécialisés, ni dans les cours des disciplines modernes. Or, l'extraordinaire progrès des sciences médicales faisait qu'il était *"impossible à quiconque donnait une partie de son temps à l'exercice de l'art et à un enseignement déjà étendu, de trouver celui qui serait nécessaire pour prendre connaissance des travaux importants qui ont été faits dans tous les siècles et toutes les*

langues". Et de conclure : *"le développement historique de la médecine doit faire l'objet d'un enseignement à part. Il est nécessaire de joindre à cet enseignement celui de la bibliographie médicale qui, dans cette masse effrayante de livres dont se compose la littérature médicale, signale aux élèves ceux qui méritent d'arrêter particulièrement leur attention, trace la route...".*

Le mouvement d'opinion dans la presse grand public (3)

Bien qu'il n'obtînt jamais gain de cause du Ministre, Dézeiméris réussit pourtant à créer un mouvement d'opinion en sa faveur quand il porta l'affaire sur la place publique. Pour sa part, la grande presse lui donna toujours raison. Ainsi, le *Journal des Débats* du 13 août 1837 soulignait-il l'utilité d'un tel enseignement, *"incontestable pour tous les bons esprits... : c'est surtout à une période d'anarchie scientifique comme celle-ci, lorsque les élèves ne trouvent pas de guide pour les conduire à travers les différentes doctrines ni dans un système ni dans l'autorité d'un maître... qu'il serait nécessaire de passer en revue les époques antérieures, de mettre en regard les anciennes opinions et les nouvelles, de comparer le temps, les hommes... "* En bref, le cours d'histoire de la médecine avait valeur de formation générale : *"Voici l'enseignement le plus philosophique qui soit, le plus propre à former l'esprit des jeunes gens... prêts à se passionner".* Un dernier argument se fondait sur le précédent de la Faculté de Médecine de Montpellier : *"dont le bibliothécaire M. Kûhnhoitz, est depuis 1831 chargé de faire et fait réellement un cours d'histoire sur les sciences médicales".*

Le Journal du Commerce du 15 août 1837 rappelait, quant à lui, la tendance des médecins modernes, grisés par leurs découvertes, d'oublier leurs dettes envers les Anciens. Le Temps consacrait, sur le sujet, trois articles : les 10 et 13 juillet ainsi que le 16 octobre 1837. Une idée nouvelle y était développée : seule la perspective historique pouvait rendre au médecin sa dimension humaine, lui qu'une spécialisation excessive avait tendance à faire déchoir.

La controverse avec la *Presse médicale*

Le corps médical, en l'occurrence le rédacteur de la *Presse médicale,* se montra, par contre, bien plus réservé. Un lecteur estimait nécessaire, avant de ré-institutionnaliser la chaire d'histoire de la médecine, de prouver l'utilité de cet enseignement pour les futurs médecins. Une polémique s'ensuivit. Six lettres de Dézeiméris furent alors publiées *"sur la nécessité de l'enseignement oral de l'histoire de la médecine et de la bibliographie médicale".* Ces lettres furent suivies des réponses non convaincues du rédacteur en chef de la *Presse médicale.*

Dézeiméris détaillait ses conceptions. L'histoire pouvait être à la fois *"extrinsèque"* et *"intrinsèque".* La première, écrivait-il, *"histoire générale, ou extérieure est l'exposition des circonstances politiques ou autres, qui ont eu quelque influence sur les progrès de la médecine ou sur sa décadence".* Section particulière de l'histoire extrinsèque, l'histoire littéraire constituait *"l'histoire des hommes qui ont exercé quelque influence sur sa marche et celle des ouvrages où leurs travaux sont consignés".* Mais, pour Dézeiméris, cette dernière ne pouvait résumer à elle seule toute l'histoire de la médecine. C'était pourtant le seul type d'histoire dont s'étaient, jusqu'ici, occupés la plupart des médecins. L'histoire littéraire avait à recueillir *"scrupuleusement, sur l'homme qu'elle veut faire connaître".* Mais l'histoire *"extrinsèque"* devait aussi se prolonger par l'histoire *"intrinsèque"d'une* science donnée : *"C'estcette science elle-même, présentée historiquement, c'est-à-dire exposée comme elle s'est produite, en suivant les phases et les vicissitudes de son développement".* En bref, une authentique histoire de la médecine allait émerger dès qu'on aurait substitué aux prétendues histoires littéraires un *"traité de médecine dans lequel chaque*

observation... exposée dans l'ordre de son apparition dans le monde scientifique et dans son mode de filiation soit rapportée à son époque et à son auteur..." Fait important, rajoutait Dézeiméris, *"dans l'histoire intrinsèque, l'erreur... doit trouver place... ".*

Malgré sa pugnacité, il n'obtint pourtant jamais la chaire à laquelle il aspirait. Nullement découragé, il abandonna alors Paris et l'histoire de la médecine pour faire fructifier, dans le sud de la France, une entreprise vinicole... Pourtant, l'enseignement de la discipline persistait et, pour pallier la disparition persistante de la chaire, des cours privés allaient être dispensés par plusieurs personnalités passionnées d'histoire de la médecine. Après Dézeiméris, ce furent Daremberg, Littré et Bouchut qui prirent le relais. On se souvient encore actuellement du pédiatre Eugène Bouchut (1818-1891) qui a laissé son nom aux fameux "tubercules" oculaires de la miliaire tuberculeuse. Il fournit aussi, en 1860, la première description de la neurasthénie. On a cependant oublié que ce médecin se passionna aussi d'histoire de la médecine. Charles Daremberg (1817-1872) dispensa également un enseignement privé d'histoire de la médecine. Il publia plusieurs travaux historiques de qualité et traduisit divers écrits médicaux de Galien, Aurélien et Oribase. En 1872, il édita sa fameuse *Histoire générale des sciences médicales* (1) après avoir été nommé officiellement professeur titulaire de la chaire, rétablie en 1870. Cette renaissance de la Chaire d'Histoire de la Médecine et de la Chirurgie fut possible grâce au legs de 150.000 F institué, un an plus tôt, par un maître des requêtes au Conseil d'Etat. Ce dernier, nommé Salmon de Champotran, était convaincu de l'intérêt qu'il y avait à introduire un enseignement de sciences humaines chez les étudiants en médecine... Salmon de Champotran favorisait la candidature de Daremberg mais ce dernier ne resta professeur titulaire que seulement deux années... Après lui, la chaire d'histoire de la médecine ne fut plus qu'un tremplin d'accès vers d'autres chaires plus prestigieuses. Elle ne devint que bien rarement un lieu authentique d'enseignement et de recherche historiques. Mais ceci a déjà été l'objet d'une autre histoire (5)...

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Claude Bernard and Pancreatic Function revisited after 150 years

A.C. Rodriguez de Romo & J. Borgstein

Summary

In 1848, Claude Bernard described the lipolytic function of the pancreas. His experimental procedure was original and as he always affirmed, easily replicable. In this study we repeated the original Bernardian experiments for emutsification and saponification of fats, following the original descriptions from his labororatory manuscripts. The results were astonishingly similar to those obtained by Bernard, confirming the validity of his experiments and conclusions, as well as emphasising again his original concepts on the importance of experimental repeatability in scientific medicine. Considering the surgical difficulties we encountered, we must conclude that Claude Bernard required great manual dexterity to obtain these results without the benefit of modern technology and anaesthesia.

Resume

En 1848, Claude Bernard decouvrit que le pancreas emulsionne et saponifie les graisses. La methode experimentale etait tres originate et Bernard a toujours dit qu'elle etait facilement reproductible. Ce travail reproduit des experiences bernardiennes de /'emulsion et de la saponification de la graisse. L'idee est originate car nous avons pris les experiences de son cahier de laboratoire. Nous avons eu les mimes resultats que Claude Bernard. La validite de ces experiences, ses conclusions etses idees surla reproductibilite experimentale, on ete confirmees. D'apres les problemes chirurgicaux que nous avons eu, nous pensons que Claude Bernard etait tres doue dans une epoque qui n'avait pas I'anesthesie et la technologie de nos jours.

Introduction

Claude Bernard (1813-1878), the 19th century "father" of modern physiology is well known for his studies on the liver, his speculations on homeostasis or *"milieu interieur"* and especially for his lucid philosophical analysis of the experimental method (1), which remains a classic, and should form essential reading for any physician embarking on research.

It is not so well known now that he also made important discoveries on the function of the pancreas, and carried out extensive experiments to confirm this. He carried out extensive research on the pancreas to discover its function which was previously unknown, though much speculated on in his time.

In 1848 Claude Bernard at the age of 35, made his first major scientific discovery; that the pancreas produces a substance capable of

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emulsifying and saponifying neutral fats ferment *(ferment emulsif et saponifiant)* and which we now know as pancreatic lipase enzyme. The discovery not only explains part of the exocrine function of the pancreas, but also the mechanisms of digestion and absorbtion of dietary fats, two processes which were entirely unknown at the time. These experiments are among the most elegant of his studies on digestion, and Bernard himself refers to them as the starting point of his epistemological and methodological reflections. It is important to point out however that the description of the discovery in his later writings and reflections differs considerably from that encountered in his laboratory notes.

To study in greater detail the epistemological conditions of this discovery, we analyzed and repeated the experiments found in the research protocol and laboratory notes written by Bernard almost exactly 150 years ago, following as closely as possible the methods originally described, in this crucial experiment on the pancreatic exocrine function.

The manuscripts of Claude Bernard

Bernard's copious laboratory notes give us a unique insight into the workings of the mind of one of the most prominent researchers of all time, as well as providing a window on the conditions of 19th century science and research.

We may examine how, with little else but his curiosity, a scientist focuses his attention on a specific problem, and arrives at a solution.

The main objective of this paper; the reproduction and analysis of this first important experiment was only possible because of Bernard's habit of keeping laboratory notebooks in which he described his experiments in minute detail, which allows them to be accurately repeated.

The original notebooks which cover a period from 1844 to 1878, the year of his death, are kept in the archives of the College de France, and their study may vary from the very easy to the extremely complex, due to Bernard's occasional habit of using various notebooks at the same time, while his handwriting varies from very clear to almost illegible. They are filled not only with details of experiments but also with hypotheses, ideas and philosophical reflections. The physiologist guarded them carefully and kept them with him. After his death they were collected from the house in the Rue des Ecoles by his former student Arsene d'Arsonval (1851 -1940), who preserved them at his country house where they were discovered in 1949 by Robert Courrier (2), then secretary of the Academy of Sciences. Finally in 1967, the medical historian Mirko Grmek published a catalogue of the Benard manuscripts (3), and made this valuable material accessible for study.

"Tallow from the Candle"

Claude Bernard started his medical studies in 1834 and completed them in1840, after which he left clinical medicine to dedicate himself to full time research. He did not produce any important work until 1846, when he took over an interest in the digestive processes from his mentor Francois Magendie (1783-1855).

Bernard collected various digestive fluids which he put in contact with different types of carbohydrates and proteins, to observe the digestiveaction. In February 1848, hefirstobtained pancreatic secretion after successfully producing a pancreatic fistula in a dog; an operation whose success had hitherto eluded him in a series of 22 animals which all died from peritoneal complications. He records that as soon as he had obtained sufficient pancreatic fluid, he embarked on a series of tests of its effects on sugars and what he called "nitrogenated substances" (4) (proteins). Then, without apparent reason, he combined a little tallow from the candle on his

work table with the pancreaticjuice and observed its emulsification! (5) Luck was on his side, for though candle tallow did not normally constitute part of the diet, it did contain triglycerides (it should be remembered that at the time most candles were made from boiled animal fats) susceptible to emulsification by pancreatic lipase (6). The discovery seems to have been completely intuitive and fortuitous. Bernard had not considered a study on the digestion of fats, for his protocols mention only dietary carbohydrates and proteins, while he did not even have any dietary fats amongst his reagents (there were only solutions of albumin and starch to test the glucolytic and proteolytic activity of the pancreatic secretions).

The detail of the candle tallow does not appear in any of Claude Bernard's published articles, and only emerged in a careful analysis of his experimental notebooks (7).

He then tried pancreatic secretions and macerated pancreas on different types of fats to confirm his discovery of the lipolytic activity of the pancreas. He carried out multiple experiments and indicated their application in human pathophysiology, while later using the example to illustrate his ideas on the scientific counter-proof (8).

The discovery was published in 1848 (9), with nine versions of the same article appearing in other journals (10), Bernard, then 35 years old had until that time not produced anything of interest. This paper earned him the prize for Experimental Physiology from the Academie des Sciences for the year 1848 and the red ribbon of the Legion d'Honneur. It also signified the start of a brillant scientific career.

The experiments 150 years later

Claude Bernard maintained that the validity of his conclusions was partly based on the reproducibility of his experiments. In identifying the cause or determinism of phenomena he gave more value to reproducibility than to statistics; it must be possible to reproduce the same phenomona underthe same experimental conditions. He always maintained that his studies on the lipolytic activity of the pancreas were simple to repeat. It should therefore be possible to obtain similar results to Claude Bernard, under the same experimental conditions.

We repeated with a few minor modifications, the experiment Bernard carried out on Saturday 25th March 1848 (11), and those of April the same year (12), using various other fats.

Bernard describes in detail his difficulties in producing a pancreatic fistula, and his first 22 dogs died from abdominal complications, until he managed to introduce a suitable silver canula into the pancreatic duct and obtained sufficient secretion for his subsequent experiments.

The experiment carried out by Bernard after finally obtaining pancreatic juice, was described in his notebooks as follows:

"Du sue pancreatique pure, 1/2 gramme environ auquel on a ajoute environ 5 centigrammes de suifde chandelle. Apres 8h. de digestion continue, le liquide est tres nettement alcalin, il s'est forme une emulsion blanchatre parfaitement homogene, le liquide ne surnage pas du tout au froid, au chaud non plus, seulement /'emulsion est fine comme du lait et ne presente pas du tout de grains. IIy a done une action singuHere du sue pancreatique sur la graisse. Le liquide emulsionne etait reste tres alcalin. II faudra fake a ce sujet d'autres experiences comparatives. De I'eau d'amidon ajoute le surlendemain n'a pas ete transformee apres 48h. Cela vient-il de ce que la matiere organique est unie a la graisse? Le liquide n'a pas contracts de mauvaise odeur" (13)

He distinguishes furthermore in his experiments, between «natural» pancreaticjuice

and «artificial» pancreatic juice (macerated pancreas).

It is important to point out that Bernard was not precise in the quantities used, and though he occasionally mentions cubic centimetres, usually he simply mixes his reagents. We were unable to obtain candles made of animal fats, as they are mostly made from paraffin wax now, and therefore used only edible fats for the experiment. We obtained pancreatic secretions and pancreatic tissue from two dogs programmed to be sacrified for an independent, unrelated study on osteosynthesis.

Methods

Two mongrel dogs weighing approximately 7 kilograms, were anaesthetized using intravenous pentobarbital induction and subsequent inhalation anaesthia. They were then operated on using a standard longitudinal abdominal incision. The duodenum was identified and incised longitudinally to locate the pancreatic duct, which was canalised with a small intravenous canula, and the pancreatic secretions were collected in a 5ml syringe.

Subsequently the complete pancreas was removed, and sections macerated with saline solution, in a mortar. The pancreatic juice and the macerated pancreas were combined with different edible fats and observed during 24 hours.

Results

In the first animal approximately 5ml of pancreatic secretion was obtained, but it was mixed with bile and had to be discarded, while from the second animal we obtained with difficulty, 2ml of pancreatic secretion. (Bernard does not mention any stimulation of pancreatic secretion). The pancreatic duct measures less than 1 mm in external diameter and it must have required considerable surgical dexterity on the part of Bernard to canalize the duct with a fine silver canula.

Test tube with "natural" pancreatic secretion.

To reproduce the experiment 9 described on Saturday 24 March 1848, we combined a little lard (tallow from animal fat candles being practically unobtainable now) with the pancreatic secretions. The tube was observed until the next day when we encountered a thick homogenous odourless emulsion.

Test tubes with "artificial" pancreatic secretion (macerated pancreas)

In the way described by Bernard, we prepared three test tubes with approximately 2ml liquid of macerated pancreas ("artificial pancreatic secretion"), towhich were added a small quantity (0,5g) of either lard, butter or vegetable oil (14). Three other tubes were prepared with saline solution and the same quantity of edible fats. (Claude Bernard did not use such a control group, mixing the fats instead with other animal liquids such as serum, semen, cephalospinal fluid and bile, none of which according to him produced any emulsif ication). All the tubes were shaken and kept at 35°C in a water bath for 30 minutes. The pH at this time was measured as 8 in each tube. Ten minutes later all three tubes were already slightly emulsified while the control tubes showed two separate unmixed phases of liquid and fat. The tubes were carried in the pocket of a labcoat (Bernard carried them in the pocket of his coat) and four hours later contained an homogenous emulsion. The most evident being the butter, followed by the lard and then the oil. The tubes were kept warm for 24 hours.

The next day, 24 hours after the start of the experiment, the tubes were again immersed in a water bath at 35°C. In the tube with butter, the emulsion was exactly as described by Bernard; as milk, while the tubes with lard and oil were

sligtly less emulsified than the butter, though the difference was very subtle.

On opening, the tube with butter dissipated a strong rancid smell of butyric acid, and the pH was found to be 5. Bernard records textually :

"le melange etait tres acide au papier tournesol et exhalait fortement l'acide butyrique" (15);

The rancid smell was present to a lesser degree in the othertubes, though more noticeable in the lard than in the oil.

Analysis of Results

All the results obtained were as described by Bernard. We observed the same emulsion, the same pH, the same odour, and thus the same saponification. The argument for reproductibility under similar experimental conditions is valid.

When Bernard published his findings, and was questioned by some of his contemporaries, he suggested they repeat the experiment, which some of them considered impossible, especially the surgical part. They may have been partly right, for it required considerable surgical skill and perseverance to obtain sufficient pancreatic secretion (16).

Furthermore, we knew what would happen, but Bernard had initially no idea. He would have considered us, in his words, "false experimenters" (17), which is to say, once we have designed the theory we design the experiment to confirm this theory.

Bernard often worked in the opposite direction, experimenting to see what would happen. Probably he continuously analyzed, consciously or subconsciously, a number of possible hypotheses as he worked, trusting partly to chance to indicate a direction, and hitting in this case upon the tallow of a candle on his work table to test his pancreatic fluid on.

He did not however divulge the real method of his discovery, and never included the crucial candle tallow episode in his publications. Grmerk says that the descriptions of scientific discoveries are always incomplete and therefore partially false.

The imperfection of historical descriptions are (fortunately) more often procedural than factual, and may be mainly due to the internal processes of scientific discovery, and the rigid systems of scientific communication. The researcher must find an acceptable method to make his discovery understandable for himself and others: a method wich does not always follow the strict chronological order of the discovery. Though this does not imply a deliberate attempt to mislead. The historian (re)creates the history on the basis of a conclusion drawn from researches, but there are many unwritten sources which play an important part in the historical development; feeling, intuitions, incidental findings, prejudices, luck (18). Claude Bernard probably considered the details of the candle tallow insignificant, or perhaps even a distraction from the importance of the discovery.

What motivated Claude Bernard to carry out this particular experiment, and how he carried out his experiments in general, is a study in itself. He started his investigations on digestion in 1843. By 1848 he had collected a number of observations related to fat digestion which are described elsewhere (19): unrelated phenomena without apparent explanation, and often widely separated in time: information which remained dormant in his mind until the moment of this experiment, when isolated observations were suddenly linked in his subconscious, and motivated the apparently senseless application of pancreatic fluid to candle tallow. Once this fortuitous observation had been confirmed, he tried various fats with pancreatic fluid and established the elegant proof which may be repeated by any interested experimenter to arrive at the same conclusions.

Conclusions

The Bernardian experiment with candle tallow seems in many aspects more of a game than a scientific experiment. Umberto Eco's principal character Brother William (20) and Dupin the investigator in the Morgue Street murders (21) have much in common with the investigations of Claude Bernard. The first has to clear up the mystery of the library, the second a strange murder, the third the mysteries of digestion. All three try to construct a logical structure of the various apparently unrelated elements which make up the phenomena under examination. At a certain point, a flash of intuition suddenly reveals the solution to a problem which had defied logical interpretation.

In the light of modern research, there remain a number of unanswered questions.

How was all this research carried out:

1. without apparent funding, except the money from his wife's dowry, which she seemed to have guarded jealously (22)

2. without previous ideas of the function of the pancreas. He was essentially reaching in the dark

3. without anaesthesia. The use of ether and chloroform for anaesthesia was described between 1847 and 1849 (23) (although Crawford Long had used ether as early as 1842, his results remained unpublished), while nitrous oxide was first applied in 1846 by William Morton and John Collins Warren. So the delicate surgery of producing a pancreatic fistula with a pancreatic duct measuring less than 1 mm in diameter was carried out without anaesthesia and with only very primitive instruments and apparatus at his disposal (24). Admittedly it took him 22 dogs before he got it right, and it is small wonder that Mme Bernard was a generous contributor to the Animal Society, an early forerunner the animal protection societies (25).

These are some of the questions the modern research worker, troubled by lack of funds, or waiting for some piece of highly specialised equipment to be delivered, would do well to consider more closely.

In research, the idea is basic, *Everything, first and last, leads back to the idea; the idea is the essence of all reasoning and all invention* (26), and where there is a good idea and a creative approach to research, funding is never a major obstacle.

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Historical declines in tuberculosis in England and Wales : improving social conditions or natural selection?

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Summary

A reinvestigation of the relationship between the decline of tuberculosis and improvement in social conditions in England and Wales during Victorian times.
Design: A retrospective study using data published in the annual reports of the Registrar General from 1853 to 1910. The diseases studied, in addition to tuberculosis were, dysentery and cholera including their total and infant mortality. Social conditions were evaluated from earnings and population density per house. Tuberculosis mortality declined at an annual average rate of 1.71% (95%C\ 0.77 to 2.63) whereas total mortality, infant mortality and mortality from cholera and dysentery and house population density showed no statistically significant decline over the same period. Real earnings increased by 1.05% (CIO.29 to 1.81). Improving social conditions do not provide the total explanation for the decline in tuberculosis during Victorian times. Other factors, principally natural selection, probably played a role. Part of the current increase in tuberculosis may be caused by effective drug therapy eliminating natural selection.

Resume

Ce travail est une nouvelle approche de I'explication sociologique au declin de la tuberculose en Angleterre et en Ecosse a I'epoque Victorienne.
L'etude a ete retrospective en faisant appel aux donnees publiees dans les releves annuels du "Registrar General" entre 1853 et 1910. Le recensement incluait non seulement la tuberculose mais aussi la dysenterie, le cholera, y compris la mortalite totale et infantile. Ainsi, la tuberculose diminuait annuellement de 1,7% (95 % intervalle de confiance: 0,77 a 2,63) alors que la mortalite restait inchangee, qu'elle soit generate, infantile ou due au cholera, a la dysenterie ou a la surpopulation. Lorsque les salaires ontaugmente de 1,05% (IC 0,29 a 1,81), les conditions de vie se sontameliorees mais cela n'expliquepas la regression de la tuberculose a I'epoque Victorienne. D'autres facteurs ontprobablement joue un role, notamment la selection naturelle et, inversement, les nouvelles therapies ontsupprime cette selection naturelle etcecipeutcontribuera la resurgence de I'affection.

Introduction

With the exception of the years during the World Wars, mortality from tuberculosis has steadily declined since records began in 1850. Because of the close association between tuberculosis, poverty and crowding, an association still found to be presenttoday, most observers assumed that improving social conditions alone were responsible for improved mortality. An improvement which continued up to the time when specific chemotherapy and immunisation became available in the 1950s. (1,2,3,4)

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Table 1 Relative changes of death rates and socioeconomic factors

	Mean change / year	95% CI
Total mortality	-0.80 %	-2.13 to 0.54 %
TB mortality	-1.71 %	-2.63 to -0.77 %
Infant mortality	-0.58 %	-2.62 to 1.15 %
Cholera mortality	-1.07 %	-14.1 to 11.95 %
Dysentery	0.009	-38.9 to 38.9 %
Real earnings	1.05 %	0.29 to 1.81 %
Overcrowding	-0.05 %	-0.41 to 0.30 %

However, the possible effects of acquired immunity by successive generations by a process of natural selection, and selective mortality of susceptible individuals orfamilies on the pattern of disease is generally overlooked in studies of historical tuberculosis rates.(5) (D'Arcy Hart, personal communication).

If natural selection had played a part in the improvement of tuberculosis mortality before chemotherapy, the current increase in tuberculosis being experienced by many countries at present, (6,7,8) may be partially due to the absence of natural selection caused by the new and beneficial chemotherapeutic era.

The aim of this study is to reinvestigate the association between changes in mortality from tuberculosis on the one hand, and mortality from other poverty related diseases and socioeconomic conditions and measures in Victorian England on the other.

Methods

Mortality statistics for England and Wales from 1853 to 1910, after which date World War I disrupted the steady downward trend, were obtained from the Registrar General's Annual Reports(9). These publications include data on tuberculosis, cholera and dysentery. Infant mortality and total mortality rates were taken from the same source. Data on other diseases over the same period of time were not as complete.

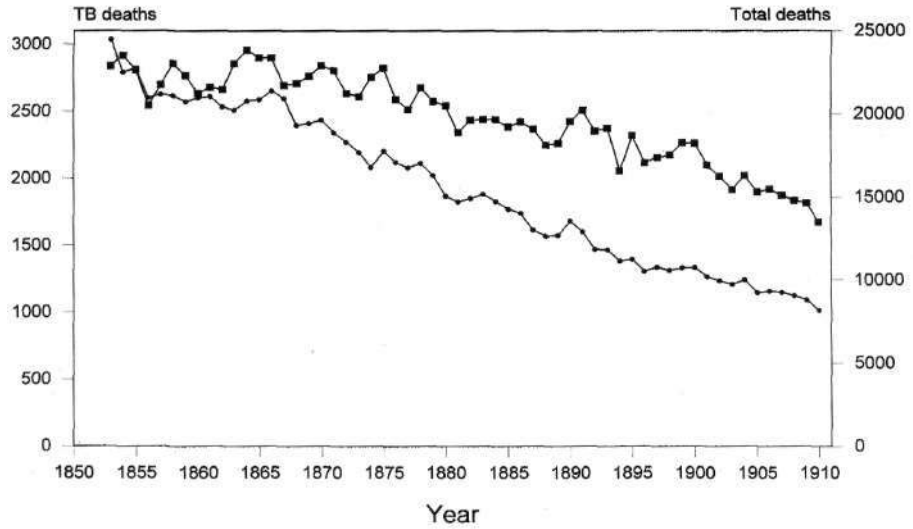
Socioeconomic measuresforthe same period were also obtained from the Registrar General's Reports. Measures of overcrowding were calculated using the decennial census data from statistics on the number of habitable houses and the size of the resident population. Statistics on average real earnings, also available from the Reports, were used.

The rates of change of each of these variables were calculated as the average percentage change per year and are given together with the 95% confidence intervals.

Results

The crude annual death rates for both sexes, for all causes and age groups combined and for tuberculosis for all age groups and both sexes combined are shown in Fig 1. The mean annual change for each measure is shown on Table 1. Total mortality rates declined by 0.80 per year (CI -2.13 to 0.54) whereas tuberculosis mortalty declined by 1.71 (-2.63 to -0.77). The average

Fig. 1. Death rates for tuberculosis per million per annum, left hand scale (circles) and all causes per million, right hand scale (squares), for England and Wales, 1853-1910.



annual decline for tuberculosis was therefore twice thatfor all causes. In fact decline in mortality for all causes, calculated on an annual basis did not achieve statistical significance.

Infant mortality, which might be expected to be a closer indicator of improvement in social deprivation, than mortality for all age groups combined declined even more slowly, by 0.58 per year (-2.62 to 1.15) again not achieving statistical significance. Fig 2 and Table 1. Secondly whereas tuberculosis deaths showed a steadily improving trend over the 60 years studied, infant mortality apparently only improved from approximately 1900.

Dysentery mortality fluctuated widely and showed no evidence of decline at all during the period. In fact there was a marginal increase of 0.009 (CI -38.9 to 38.9) Fig 2 and Table 1. Fluctuations were marked as the disease tended to occur in epidemics. Cholera mortality decline was present but fluctuations were also marked and statistical significance in decline was not achieved, -1.07 (CI -14.1 to 11.95)

Overcrowding showed a trend towards improvement -0.05 (CI -0.41 to 0.03) but surprisingly did not achieve statistical significance on an annualised basis. Real earnings were the only factor studied, other than tuberculosis, to show a statistically significant change over the period, rising by an average annual rate of 1.05 (CI 0.29 to 1.81). Table 1. This was in contrast to a decline in tuberculosis mortality of 1.71 per year. The decline in tuberculosis mortality exceeded by 63%, the increase in real earnings on an annual basis.

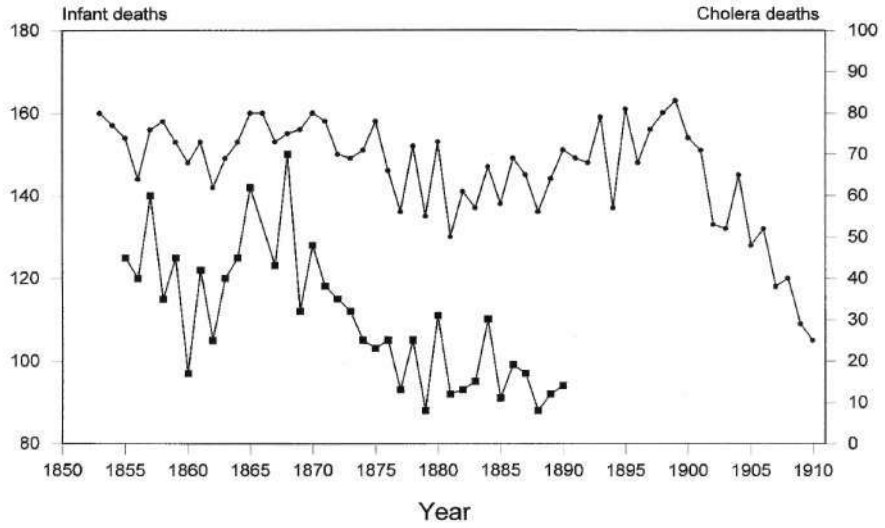
Discussion

The study has shown that tuberculosis mortality declined at a very much faster rate than any indicator of social deprivation improved for the period 1853 to 1910. In particular mortality rates, both for infants and all age groups declined by less than half the tuberculosis mortality rates. It is therefore unlikely that social improvement alone was responsible forthe remarkably steady decline in tuberculosis mortality.

Other diseases thought to be poverty related such as diphtheria and cholera showed no similar decline. Simple measures of social improvements such as overcrowding showed no relationship to tuberculosis mortality improvement. Though real earnings were one factor which did show steady improvement, the average annual improvement was considerably less, approximately two thirds less, than the rate of the decline in tuberculosis mortality.

Had the mortality of tuberculosis been closely related to poverty during this period, the steady

Fig.2. Death rates for infants per 1,000 live births, left hand scale (circles), and cholera per million, right hand scale (squares).



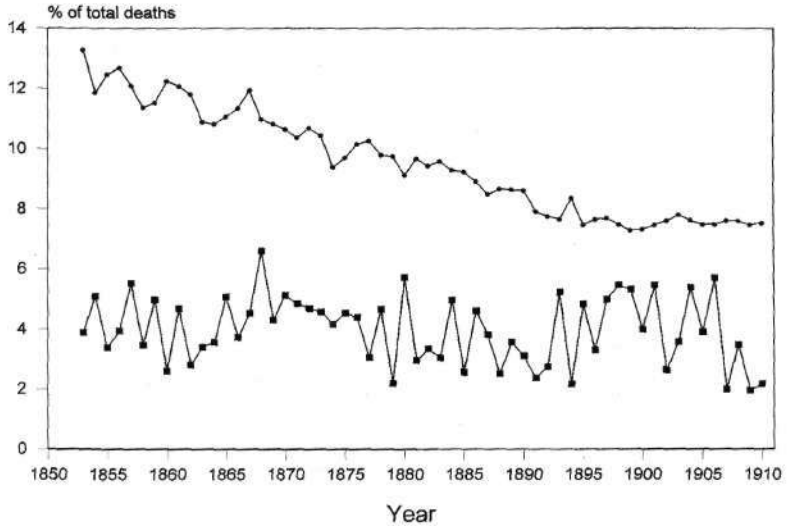
improvement of 1.71 % a year, which showed a remarkable consistency (Fig 1), would have been most unlikely to have occurred. That tuberculosis is associated with poverty there can be no doubt as both early and later studies have shown (1,3,4,10). What this study has shown is thatthe decline in tuberculosis mortality far exceeded improvements in social conditions and otherdisease markers of poverty over the period studied. Some other factor or factors are likely therefore to have been playing a part, of which the most important is probably the process of natural selection.

Historical studies have shown that in any age cohort tuberculosis rates are highest in the young adult group (11). Individuals susceptible to tuberculosis are therefore most likely to develop disease around the time when they would expect to be child bearing and child rearing. The morbidity and mortality of tuberculosis at this time of life would therefore tend to restrict the number of children born to sufferers, or by depriving the children of parents in infancy and early childhood lead to greater mortality in children of tuberculosis sufferers. In eitherevent fewer children of tuberculosis sufferers would reach child bearing age than of those who remained free from disease. Thus a process of reduced fertility of tuberculosis susceptible families would occur leaving those that were naturally resistant to produce children.

If this were the case then the introduction of chemotherapy in developed countries for the past 50 years might well have resulted in the natural selection process being removed so that a new generation of children with a higher proportion of susceptible individuals, perhaps by possessing a phenotype with a weaker ability to acquire immunity, would have been born. Tuberculosis rates might then cease declining or even increase in younger age groups exposed to infection. The fact that tuberculosis rates have shown no decline among the White population of England and Wales between the national notification surveys carried out in 1988 and 1993 (12,13) either for all ages combined, or more significantly in males aged15-24 years, lends some support to this theory.

The conceptthat natural selection might have had a major part to play in the decline of tuberculosis during Victorian times, and that its absence due to chemotherapy is currently contributing to the present increase, is essentially a hypothesis of default, the data shown here suggesting that improvement of social conditions alone was not sufficient to account for the decline in tuberculosis mortality. The fact that it is sustainable on the present evidence reinforces the need to continue protection of uninfected individuals by BCG until tuberculosis poses far less of a threat internationally than it does now(14).

Fig.3. Relative proportion of deaths to total deaths fom tuberculosis (circles) and dysentery (squares).



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Biography

Dr P.D.O. Davies, educated St Thomas's Hospital and University College Oxford qualifying 1973, training jobs in London and Cardiff in general and respiratory medicine DM 1986 in the epidemiology of tuberculosis in England and Wales. Consultant Physician, Cardiothoracic Centre and Aintree University Hospital 1988. Director ofTuberculosis Research Unit 1990.

Joseph Daquin Piedmontese Savoyard physician A "not well-known Chiarugi"

D. Vanni, B. Salomone, D. Pomini, P. Vanni* and R. Ottaviani

Summary

We present a critical review of «La philosophie de la folie», second edition, published in 1804. Joseph Daquin's thoughts and clinical activity in the psychiatric field are described.
Daquin's ideas about various forms of madness and the different therapeutic, moral, physical treatments, his anatomical studies, successes and failures are presented.
Several clinical cases are described. The author's view of the moon's influence on madness is described.
Finally it is shown how very important was the human person and the moral treatment of madness for Daquin, in contrast with the current opinion at the end of 1700.

Resume

On presente ici une vision critique sur "La philosophie de la folie" dans sa deuxieme edition publiee en 1804.
Le contenu decrit la pensee de Joseph Daquin et I'activite clinique dans le secteur psychiatrique.
La pensee de Joseph Daquin sur les differentes formes d'alienatlon mentale et les divers traitements therapeutiques, moraux, physiques; ses etudes anatomiques, ses succes et ses echecs sont exposes ici.
Plusieurs histoires cliniques sont decrites. On mentionne aussi I'idee de I'auteur au sujet de /'influence de la lune sur la folie.
Enfin, on voit que I'etre humain etait tres important pour Joseph Daquin et par consequence le traitement moral de la folie.

Joseph Daquin served as a physician in military and civil hospitals in Chambery. He was also a librarian there and in addition, active at the university of Lyon, the agrarian societies of Chambery and Turin, and the medical societies and board of Paris and Montpellier. Abbe Grillett said of Daquin that he was willing to involve himself with any useful organization, and that in many cases people benefited from his enlightenment, his zeal, and his concern for public welfare. Daquin's great knowledge of natural history and physics led to his appointment as chairman of these sciences in the "central school" of the Mont-Blanc department. He was also selected to make the meteorological observations that the French Prime Minister had commissioned throughout the empire.

Daquin was a zealous promoter of vaccination against small pox. Elected secretary of the relevant central committee, he attempted through his work and writings to expand this practice. In an 1801 letter he described the advantages of vaccination, and in 1811 he prepared a French translation, with numerous marginal notes, of Doctor Sacco's treatise on the subject. On February 5, 1816, the French government acknowledged Daquin's contributions posthumously by presenting a silver medal to his heir.

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The great medical history of Salvatore De Renzi refers to Daquin as follows (1): *To complete, then, this concise review of chemical works published in Italy during this period, I will be satisfied to mention only the analysis of the Boisse mineral waters made by Joseph Daquin, who, with equal zeal cultivated both chemical and medical science.* De Renzi then provided a summary of Daquin's career, adding that in his 1791 book on madness he wisely demonstrated that such diseases could better be treated with moral support than with physical remedies, and noting his contention that the moon has a definite influence on madmen. Daquin's work was also described in Benedetto Trompeo's little-known *Essay on Turin's royal mad-house with some mention of the character and treatment of mental diseases* (2, 3).

Daquin has since been remembered in a number of medical history texts for Italian university students (4), as well as in Edward Shorter's recent *History of Psychiatry (5),* which provides the following discussion of his ideas concerning 'nerves': *A physician like Joseph Daquin, a consultant in the city of Chambery (which then belonged to the Italian Duchy of Savoy), would attribute the problems of the wealthy women in his private practice to the "vapours".* In his medical topography of Chambery, published in 1787, he said, *Nervous afflictions are not frequent in Chambery, yet we see today a greater number than previously; they have even spread to women of the countryside nearby the city (6).*

Shorter continues his summary of Daquin: These nervous "vapours", arising as they did from the uterus, could derange all the functions of the brain. Associated with women who led "a soft and sedentary life", such "vapours" sound like fairly significant disorders, deranging the functions of the brain and whatnot. But were these women "insane" in the sense of being candidates for admission to an asylum? Not at all. Their families would keep them at home. At the same time, Daquin was medical director of the local hospice, or Hotel-Dieu, of Chambery and treated poor patients for insanity. Some of these Hotel-Dieu patients must have had symptoms similar to those of his private patients. Yet Daquin did not let the two worlds overlap. The author's extensive description on the title page of his topography says nothing about the psychiatric service of the Hotel-Dieu. In conveying his ideas to the public (5), Daquin kept nerves and madness quite separate and did not advertise that he functioned as a psychiatrist.

In the accompanying footnote, Shorter mentions in passing Daquin's 1791 essay on mental illness and the organisation of the asylum portion of the Hotel Dieu, in *La Philosophie de la folie* and a summary of this treatise. He refers to the work by Gauchet and Swain (7) and writes that the authors, however, end up making the ludicrous claim that it was Daquin who thought up moral therapy.

I ntrigued by these various accounts, we were interested in gaining a deeper knowledge of Daquin's work in the psychiatric field. After careful research we came into possession of the second edition of the *Philosophie de la folie* (1804). By analyzing this revised and enlarged text in respect to the first edition of 1791 we have been able to study the evolution of Joseph Daquin's thought and practice.

At the beginning of the 1804 text, the author enumerates his writings, which confirm and augment the references cited by Bonino (Fig. 1). Daquin appears to us as a scholarly and committed physician, ratherthan as an individual characterised mainly by a provincial medical practice.

We analyse the text and we make a series of interesting observations: Daquin's dedication of his essay to Philippe Pinel alerts us to the forward-looking nature of his studies. His ideas about insanity were completely in accord with

those of the great French physician. More revealing still is the Prologue *(AvantPropos),* in which Daquin (Fig. 2) claims a sort of priority over Pinel in the care of acute madness (8): *Lorsqu'en 1791 je publiai I'ouvrage dontje donne id une seconds edition, je n'avois pas des donnees en assez grand nombre, ni des observations aussi positives et aussi repetees queje les ai aujourd'hui. II n'avoit encore paru aucun livre surla Folie, comme le Traite medico-philosophique sur I'alienation mentale, du Docteur Pinel* (a). Furthermore, he considers that his method of caring for mental illness with moral rather than physical therapy and that of Pinel developed independently of one another. In his prologue, Daquin condemns the practice of enclosing the insane in rooms *overly similar to prisons, damp and bad smelling, fit more for animals than for men,* and complains that if the State makes no financial commitment, society will certainly do little for the insane poor.

In his second edition, Daquin describes his examination, both of the clinical literature and that of the history of medicine, in works dealing with the serious subject of madness, and claims to have found nothing of value. Therefore, after 17 years of meticulous clinical work among the insane poor, he has decided to publish his results. Even in cases where, as he admits, his patients *were not restored to health, unfortunately,* Daquin is confident that he mitigated their sufferings and did not worsen their condition. The 1804 prologue concludes with a strong defence of the humanity of mental patients and makes an international appeal for research and care for mental illness, comparable to the public assistance provided for disabled war veterans and the like.

The *Filosofia delta follia* then begins with a lengthy 27-page introduction in which Daquin discusses:

1. the tragedy of mental illness
2. the general indifference in the past to this form of disease, except by the author himself and by Pinel
3. his attempt to identify the distinguishing features of mental health versus insanity
4. apreliminary classification of the variousforms of insanity, such as 'furious', 'imbecile', dumb', and other subtle distinctions.

The body of the text consists of numerous case histories *{les observations)* of curable and incurable patients, all of whom, however, were studied with interest by Daquin, who may therefore be considered a pioneer psychiatric specialist. Now examine some of these *observations,* since they provide valuable insights into Daquin's personality and practice, revealing a forward-looking observer and therapist of mental illness. The case histories provide details of Daquin's philosophies, his therapeutic methods, and a series of clinical successes and failures which defined the career of an enlightened and sometimes prophetic psychiatric pioneer.

After mentioning the possibility of an hereditary predisposition to madness, Daquin emphasises the strong connection between the body and mind and states that influences generating insanity can be transmitted from the mind to the body, and vice versa. His first pair of observations illustrate the effects of physical illness on the mind: Two women, one suffering from smallpox, the other with arthritis, became deranged; the first good-humoured, the second morose. Leeches were applied to the nape of the neck and to the arms of both women, and they were given drastic purgatives: both recovered their senses.

Another pair of observations demonstrated the effects of the soul on the body. A thirty year old woman with a sad and meditative disposition became mad following a confession. Believing she saw the devil everywhere, she wished to stay alone in dark and solitary places. Cold baths, but above all consoling speeches and particularly human companionship, restored her sanity. After being deserted by her intended

Original internal cover showing the book title and the list of qualifications and offices carried on by Dr. Daquin.

LA PHILOSOPHIE
DE LA FOLIE,

OL» Ton prouve que cette maladie doit plutdt etre trait^e par les secours moraux que par les secours physiques}

E T

Que ceux qui en sont atteints, <5prou-* vent d'utie maniere non equivoque rinfluence de la lune.

Seconds Edition revue, augmtmtc'e elappuye'e.suf un grand nombre de differentes pbservations.

Viu- JOSEPH DAQUIN, Docteur err rnedecine de l'Universiie de Turin ; Medecin dps hopitau* civils et militaire j Asspcie honoraire de l'Alhencc de Lyon ; de la Societe libra d'Agriculture de Chanibcry, et de celle de Turin; Correspondant de ia ci-devant Societe; royale de jnccfecine de Paris et de celle da inedecine pratique de Montpellier; ex-Profpsscur d'Histoire naturelle a I'Kcple centrale du department du Mont-Blanc, et Bibliothe-> caire de la ville de Chambery.

Multi igitur ab animi pathemate pendente!, bland?, ac leniter tractandi sunt: d *nimid remediorum copi& et yehementid, qvhiri maximi abstincndum.*
BAGLIVI praxeoamedicee, lib. I. cap, XIV

C H A M B E R Y ,
De rimpvimerio de P. CL&AS , rue Verit6
M.° iGa. u=a An XII. — iBo^.

husband, who married another girl, a twenty-five year old woman became furiously deranged: talking and shouting continuously, destroying everything that came within her reach. After six months Daquin gave up all hope of her recovery: the patient lived completely unclothed, she stopped eating, becoming gaunt and amenorrhoeal, and she was terribly aggressive to anyone who approached her. Before abandoning her case entirely, Daquin gave her a night-dress. The patient put it on, and from that moment started to improve in health: she gained weight, the menses reappeared; in brief, she recovered, became quieter and mindful of her health, and was allowed to walk out of her cell. After eleven months she was declared cured, and got a job serving a benefactress.

From these four cases Daquin deduces that in the first two, some anatomic alteration of the brain resulting from physical illness had influenced the patient's mind, whereas in the other two instances, a diseased soul altered the mind's functions. Diseases of the soul, he notes, are so persistent and difficult to cure that they are often despaired of. Daquin is therefore critical of anything that excessively stimulates the feelings, be it either passionate novels or religion and contemplative life, and claims that *we see in convents mad people of every kind.* Love, jealousy, envy produce furious derangement, he concludes, while excesses of tenderness, friendship, study, and religion cause quiet madness, imbecility, and intermittent insanities, the last featuring long intervals of calm and reason.

From these observations Daquin concluded that women are more susceptible to insanity than men because they are weaker, have more delicate constitutions, and are more sensitive to extremes of feeling because of the menstrual cycle and its cessation. Madness can be caused by pregnancy, difficulties in childbirth, and the disappearance of milk. His second group of observations feature a young mother who *lost the milk,* entrusted her child to a wet-nurse and fell into a cold madness, uncommunicative, one of the most resistant forms of insanity. She lay on straw in her own faeces, feeling nothing. This madness Daquin considered incurable because the blood is imbued with the milk's humours, and neither leeches nor temperate baths are enough to purge it.

These cases are followed by a portrait which minutely describes the distinctive features of the insane in:

1. They are physically strong, well able to withstand cold, heat, and lack of sleep; they have a surprising strength even if of delicate constitution.
2. They love tobacco.
3. They love pleasure.

Here Daquin's prognosis is gloomy: Deranged people are difficult to treat and are

always a source of frustration to the doctor. Few recover, and only in England are there any hopeful results. Daquin cites the example of the hospital in York, where among 599 lunatics, 286 recovered, 151 became calm, 47 were incurable, 40 died, 37 men and 38 women remained in treatment. *We must give honour to the English, who have restored to society so great a number of people,* he concludes. *We can try to cure insanity.* Furious madmen can recover if they are cared for at the onset of their illness. Some cases remain inexplicable to medical science. Daquin refers to two of his patients, considered incurable, but who returned to reason following bouts of 'putrid' fever and 'quartan' fever, suffering even from serious oedema of the limbs. He complains that anatomy fails to provide satisfactory information about mental illness, and sheds only a weak light on remedies and cures. *It is very hard to take care of mad people,* he concludes: *it is the most difficult branch of medicine* (8).

> *Then, also after reading Pinel, I am persuaded that what I wrote in the first edition about my treatment of the insane is the most sure and reasonable method: the gentle way of treating them, gaining their confidence, and the use of therapie morale (a daily routine, physical exercise, freedom from restraint, light tasks, and all sorts of diversions). The doctor must identify himself with the insane character. People will shout the contrary when I say that it is necessary to speak continually about reasoning with madmen, but it is with consistency that we will restore them. I can report more than one case proving the success of this way to proceed* (8).

In his third set of observations, Daquin recounts the case of a woman near thirty years old who had remarried, believing her husband had died. When he came back home and the woman found herself with two husbands, she lost her senses, falling into violent convulsions and maniacal delirium. She was taken to the asylum with the consent of both husbands. Because the woman was insane but calm, Daquin subjected her to moral therapy. After nine months she became depressed and silent, rejecting food and drink. Nearly 23 days later, the doctor was sure he would lose her, but after looking at her near death, with her mouth half-open, he made her drink some sugared water: she seemed to appreciate it. Then Daquin tried again to nourish her with some orange-peel syrup. On the third day she drank some meat broth. Her voice, her sleep and her bodily functions were soon restored, the interviews resumed, and the doctor set her some small tasks in the garden. The recovery was definitive. After a year and a half of illness, she was restored to society.

Daquin on physical therapies

The deranged, if not dangerous, must not be shut up for long periods of time. The prison-cell is a torture which every madman strives to escape. Daquin also maintains that the horizontal position is detrimental to the furiously insane; it is necessary to let them stand and walk about, to lessen *the tension and the fullness of the cerebral vessels.* He is likewise critical (8, b) of the strait-jacket described by Cullen: dressing the madman in it during a furious attack is too difficult and binding him when calm is cruel.

Another form of therapy undertaken during the furious crisis is bleeding: this can sometimes be effective at the onset of the disease, but it is useless if the madness is long-standing. Daquin prescribes blood-letting from the foot. The temporal and jugular veins too can be bled, but better results can be obtained by lancing the cerebral vessels, [a terrible suggestion A.N!] It is betterto err by bleeding too little than the opposite. Here Daquin cites the case of a youth between sixteen and eighteen presenting with mental derangement. After interviewing him, the doctor diagnosed masturbation was the cause of his insanity. Daquin succeeded in correcting him of

The second edition dedication of the «La philosophie de la folie» to Philippe Pinel and the priority claim.

AU Docteur PH. PINEL,

Professeur de l'école de médecine de Paris, Médecin en chef de l'hôpital national des femmes, ci-devant la Salpêtrière, et Membre de plusieurs Sociétés savantes.

J'AVOIS adressé la première édition de cet ouvrage à l'humanité, parce que le sujet paroissoit m'en faire un devoir; mais aujourd'hui j'en remplis un bien plus satisfaisant pour moi, Monsieur, et bien plus conforme à la chose, en vous dédiant cette seconde édition, parce que vous êtes cette précieuse vertu même, personnifiée. Votre écrit sur la Manie *peint tout à-la-fois les sentimens généreux d'une belle ame et la fécondité du génie: on y trouve cette sensibilité sympathisante aux maux d'autrui, à côté des ressources salutaires de l'art pour les soulager. Ne sont-ce pas là des motifs suffisans pour vous présenter le fruit de l'étude que j'ai faite de cette affligeante maladie, appelée* Folie, *et de l'intérêt que j'ai pris à ceux qui en étoient atteints?*

Je vous l'offre donc comme à l'ami du genre humain, comme à un homme vertueux et éclairé, et comme à un Médecin habile dans toutes les parties de l'art de guérir, et sur-tout dans celle-ci, qui en est la plus épineuse.

Recevez-le, Monsieur, sous ces trois rapports, en témoignage de l'estime sincère et de la considération distinguée de votre serviteur et confrère le Docteur

DAQUIN.

this vice, and he seemed to recover, but he fell again into temptation, presenting such a state of alienation that his parents called a country doctor who bled him three times in succession. After the third bloodletting, the poor young man fell into a state of permanent imbecility.

The source of madness is not always located in the head; it may for example be located in the lower abdomen. If the cause of imbecility is located in the stomach, an emetic can be effective. However, it is necessary to use these drugs sparingly because they push the blood to the brain through the carotids, and this may result in more damage than benefit to health. On the contrary, laxatives may be freely used; the insane always eat a lot, and prefer heavy food. The purgative relieves the head of unhealthy humours which are eliminated by the intestine. The diarrhoeic madman, for instance, is less furious and his ideas less odd.

Opium, however, is the heroic drug. The raging maniac, submitted to opium, is soothed; the circulation of the blood stabilised and he becomes cheerful and quiet; this drug may also be used as a cure when maniacs are calm. Most doctors prescribe opium in too low a dose, as the madman's humours are acidic and easily destroy it. Daquin prescribes twenty-five to thirty drops of laudanum of Sydenham or one to one-and-a-half grains of pure opium. Along with the opium, Daquin often prescribes camphor, but he does not believe in the effectiveness of such supposed specifics as safranum, castoreus and moss. He is also opposed to the use of hellebore. Although it was considered since the time of Hippocrates to be a very effective drug for insanity, it is toxic and can be used only on very strong people. Daquin considers hellebore more of a mythological drug than a practical remedy, citing the example in Pliny of Melampus, who cured the insanity of King Proteus' daughters with it.

Finally, physical therapy can involve warm or cold baths, but the warm bath should only be used where the nerves are dry and rigid, typically in melancholic people. Cold baths are more commonly used. Cold water may be spilled on the maniac's shaved head or ice applied in the form of a cap. On this subject Daquin reports the case of a robust and melancholic thirty-year-old man with bleeding haemorrhoids who began showing unequivocal signs of madness afterthe bleeding ceased. Upon seeing the patient's dry temperament, Daquin treated him with tepid baths and by sprinkling cold water on his head. Afterthe 15th bath the haemorrhoids reappeared and began bleeding and after the 40th, he recovered.

Daquin concludes, however, that these chemical and physical therapies are insufficient. Of greater therapeutic benefit to the insane are mental hygiene, fresh air, and freedom under supervision: *They need to be closed in as little as possible,* exactly the opposite of what was routinely done for centuries. Music can also have beneficial effects: A case of furious madness treated by a physician in Chalons sur la Marne with a one hour concert is cited. Establishing a healthy daily routine is essential, and this is often at odds with practice in madhouses. For example it would be helpful for mad people to have a toilet in their cells. The food is often very heavy. They must take three well spaced meals a day with perhaps some fruit thattheyparticularlyappreciate between midday and suppertime. Water is the preferred drink, but may be better accepted if mixed with some wine.

Daquin also considers the possible use of electricity in the treatment of mental illness. Although not yet part of the psychiatric armamentium, electrotherapy has been used for epileptics, paralytics, and apoplectics: why then, he argues, can it not be useful in cases of insanity? Perhaps such experimentation is not very *humane,* but it is necessary for medical progress. Daquin concludes this section with a discussion of the therapeutic use of cold and warm mineral waters. The Aix warm water can be employed for the melancholy, imbecile, and dumb insanities; the cold, martial water of Amphion is more appropriate for the maniacal and furious. *I would have more trust in these therapies, than in the electricity,* he asserts. The Boisse water is not recommended, however, because it can bring on respiratory diseases .

The Moon's Influence on Madness

Along with many previous writers, Daquin is convinced of the moon's effects on the insane. In addition to citing the Abbe Toaldo, whose meteorological text he translated in 1784, Daquin reports his own research findings on the subject. The doctor selected five men and five women and followed them methodically, treating each subject in the same manner and recording their answers and the state of their health. Entering the patients' cells alone, he asked each of them how they were and whether they were sleeping well. Usually he did not receive an answer, so he next asked if they were eating well. Often he received complaints about the scarcity of the food — complaints which were found to be untrue. He asked the women about their menstrual cycles, and if (as often happened) no answer was forthcoming, he had the hospital attendants look at their underwear. He checked each patient's pulse, without encountering any particular resistance, and then ended the visit with an interview, by which he recorded the patient's mental condition: whether it was worsening, recovering or stationary. Finally Daquin correlated these observations with the moon's phases.

More than 800 visits in 16 years of research are documented and he found some lunar influence apparent in all cases. Although he could not determine precisely the mechanism responsible, it does not appear strange to Daquin that the moon's phases, along with other

climatic and meteorological conditions, could affect both healthy and deranged minds. At the new moon and full moon, madness is at its maximum, while during the last quarter phase it is lighter and then in the first quarter phase it is at a minimum. The moon's influence is greatest at the equinox and solstice.

In conclusion, the more closely the moon approaches the earth, the greater its effect on individuals. Daquin again cites the case of the girl who became mad following the desertion of her intended husband: this woman was very sensitive to the moon's phases. But lunar effects are the most extreme upon furious and incurable madmen. There is nothing magic in these effects; it can all be explained scientifically, just as Descartes and Newton affirmed the influence of the moon on the movement of the tides.

Address on Suicide

Suicidal people cannot be enumerated among madmen by the alienist . Deranged people rarely take their own lives, and this is proven in the asylum registers. Inmates there die from acute or chronic disease. The person who kills himself is wrongly considered as mad. Suicides are lucid and end their lives with determination and clearness of mind. However the suicide is not a hero: Cato killed himself to avoid seeing his country's downfall; he would have done better by endeavouring to save it. Certainly the person who bears his pain with fortitude and for a long time is braver than he who tries to free himself with suicide. Daquin calls the suicide cowardly, and concludes that such cases are a matter for the legal system, whereas it is necessary for medical science to attend to the insane.

Address on Drugs

It is interesting to note that near the conclusion of his essay the author justifies his title of *Philosophie de la Folie* because of his conviction that insanity can better be cured with moral therapy and humane treatmentthan with specific pillsorotherdrugs. The doctor himself, however, is necessary as a *guide and succourerior* the madman. Daquin refutes Rousseau's adage that *Medicine works without physicians;* it is necessary ratherto prosecute quacks and corrupt doctors. It is more useful for the physician to comfort than to prescribe. *Chemists and medicasters will shout at me,* he fears. Yet by the end of the eighteenth century Daquin spoke out against the abuse of drugs and the enormous numberof useless and dangerous preparations. It sounds like a recent problem.

Daquin then calls for the establishment of a new sort of school, which in addition to such subjects as mythology and history would teach anatomy. *Why not educate young people between 8 and 14 years old about the mechanics of the human body ?* Finally, after a complaint against those physicians who place theirtheories before their humanity and good sense (here he is referring primarily to the contrast between Cullen and Brown), Daquin concludes his essay with a final Observation. After citing Franz Joseph Gall's research on the crania of the insane, Daquin reports his own observations of a 70 year old man, dead after spending 40 years in a mental hospital, who had a depression on the right side of his cranium. This depression must have dated from the patient's birth or early childhood. Daquin concludes that this injury to the cranium was probably the primary cause of his insanity.

Conclusions

We were intrigued by the figure of this student of insanity who lived at the end of the 18th century. From his text on madness emerges a portrait of an individual endowed with extraordinary humanity and honesty. A man of moderate means, he was, apparently free of the desire for money or power. This learned and cultivated man had a philosophy similar to our

own: humane and unsentimental. An objective, empirical observer, he tested his theories before adoptingthem. Heexpressed hisfindingsclearly. He studied the clinical literature to discover how the Italian, the English, the French, and the ancient authors thought. Daquin denounced money-grubbing charlatans, and probably made numerous enemies. In a world in which in many places the insane were condemned and confined to cells like animals, living in straw among their own excrement, with keepers who undoubtedly mistreated them out of fear and ignorance, he was a physician who saw himself as a healer in the tradition of Hippocrates; who went into the cells and observed the patients directly.

Daquin saw his patients not as desperate, hopeless maniacs, but as individuals distinguishable by their language, their behaviour, their physical condition and their chances of recovery. He consoled them, observing that in this way they became calm. He treated them by contemporary methods but believed that *to each patient there is one cure.* We cannot generalise, he argued, all patients are not the same; it was only out of laziness, or despair, that other physicians used identical methods on all patients. Daquin argued this was wrong, and he took particular care not to worsen the patient's condition with drastic remedies. He insisted that one approach often made matters worse and he avoided persistent questioning of patients about the origins of their madness. There is often a protective, paternalistic attitude toward the insane in Daquin's work. Sometimes his writings seem to fall between early and modern medicine, between the stake and mad cages and modern psychotherapy, a bridge joining one way of thinking with another.

Daquin's recognition of insanity as an illness implies an acceptance of the essential humanity of the insane, and an understanding that although some people, as a result of a particular disease, or accident of fate, can fall victims to this unfortunate state, they can still be considered individuals, deserving care and study. This was unusual thinking in his day. An openness and generosity of spirit is the appeal of Daquin. He was an asylum doctor of the late 1700s, who cared for sick minds in defiance of convention, yet sufficiently humble to recognise the limits of his own understanding.

According to Daquin, insanity has many symptoms which he attempted to identify and classify: there are gay and sad forms, chronic and acute forms, furious and estranged varieties, melancholy and stupid types. The treatment is different for every case. Madmen must be observed, followed, advised, comforted, and treated with medical and physical therapies, but mostly with philosophy to bring them relief: with consoling conversations, better nourishment and a pleasant environment including the open-air.

Daquin found moral treatment including conversation to be the most efficacious therapy. He thought little of pharmaceutical agents, apart from opium, seeing the results of moral therapy as the main indicator of good care. He likewise considered music to be one of the best forms of therapy, even though others considered Daquin the madman for this belief.

The standard medical opinion of the day was quite different from Daquin's views: pharmacy and medicinal herbs were greatly respected, and they were attributed with benefits which they did not in fact possess, resulting in the widespread use of some highly toxic compounds. Physicians like charlatans often sought to heal all diseases with the same medicine. Daquin, by contrast, advocated studying disease and anatomy in order to determine how to treat the patient, in the same manner that a person who understands the mechanics of an engine is able to repair it when broken. He was a strong believer in conducting autopsies: in such examinations lay the future and the hope of medical science. In order to further explore the influence of the moon and draw accurate conclusions he kept a

diary in which he meticulously recorded variations in symptoms over the course of the moon's phases.

There is similarly great precision in his therapies. In particular he studied diet: the number and quality of meals, which if too strictly enforced, would be refused. Water was seen as very important; wine less so, although Daquin advocated its use for melancholies. Warm and cold showers and baths were likewise exactly prescribed: their number and the appropriate type in relation to the patient's condition, as is the use of thermal waters and watering-places. Electric current was also cited as potentially useful in the treatment of insanity, although Daquin viewed this recent discovery primarily as afuture hope. In conclusion, this physician whom history has remembered as a spa doctor, chemical analyst and meteorologist, emerges from our examination as an important figure in the history of medicine: a late 18th-century asylum doctor, contemporary with Pinel and Chiarugi and like them an early pioneer of modern psychiatric practice.

Acknowledgements

Thanks are due to Miss Lia Mereu fortechnical assistance and to Prof. Ed. Shorter and Doctor Christopher Lawrence for courteous critical editing of the manuscript.

In Giovanni Giacomo Bonino's two-volume Piedmontese medical biography (9), there is a discussion of Joseph Daquin just ten years after his death. Daquin, who graduated in medicine from Turin University in 1757, was born in Chambery in 1733 to a family of distinguished magistrates. He died there in 1815 at the age of 82. Daquin's writings include *Lettres aux amateurs de /'agriculture* (Chambery, 1771), to which the Abbe Grillet attributed the establishment of the Royal Society of Agriculture, Arts and Trade the following year.

Daquin published widely: on thermal waters, on putrid fevers, on meteorology, on theology. Other publications by Daquin include:

- *Analyse des eaux thermales d'Aix en Savoie* (Chambery, 1773, in 8°).
- *Memoire sur la recherche des causes qui entretiennent les fievres putrides a Chambery* (1774, in 8°).
- *Analyse des eaux de la Boisse* (Chambery, 1775, in 8°).
- *Essai meteorologique sur la veritable influence desastres, dessaisons, changementde terns, applique aux usages de I'agriculture, de la medicine, de la navigation, etc, pax* Joseph Toaldo Vincentin, traduit de I'italien en frangais, avec des notes du traducteur (Chambery, 1782, in 4°).
- *Reponse a la lettre d'un Ecclesiastique frangais ecrite a Mr. I'Eveque de Chambery, sous le nom du Rabin de la Synagogue d'Amsterdam, a /'occasion des notes du traducteur de Toaldo* (Chambery, 1784, in 8°)
- *Reflexions d'un cosmolite sur celles du polite Solitaire de la Cassine, relatives aux eaux de la Boisse* (1786, in 4°).
- *Topographie medicate de la ville de Chambery et de ses environs.* (Chambery, 1787, in 8°). This work was criticized by the compilers of the December 1787 «Oltremontana Library," but it received a gold medal from the Paris Royal Medical Society.
- *Defense de la Topographie medicate de Chambery contre un article du journal de Turin intitule Biblioteca Oltremontana* (Chambery, 1788, in 8°).

His most significant medical work was *La Philosophie de la Folie,* ou Ton prouve que cette maladie doit plutot etre traitee par les secours moraux que par les secours phisiques; et ceux qui en sont atteints eprouvent d'une maniere non equivoque I'influence de la lune (Chambery, 1791, in 8°)". The 1804 second edition of this work is dedicated to Prof. Philippe Pinel.

Notes

a In 1791, when I published the first edition of this work, I had not yet assembled a sufficient number of facts, nor had I made as many specific and repeated observations as I have today. No study of Insanity has ever been published apart from Dr. Pinel's Medico-philosophical treatise on mental alienation.

b "Le celebre Cullen recommande une chemisette serree au corps, comme le meilleur moyen pour contenir les fous qui sont furieux; ce moyen paroTt an effet assez convenir; mais, comment leur vetir cette chemisette dans leurs acces de fureur, sans qu'il y ait du danger pour celui qui voudra s'en charger? avec quelle colere et avec quelle force ne se defendront pas les fous a qui il s'agira de I'endosser?"

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Biography

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Les prémices de la Physiologie du cerveau humain, de l'Antiquité à la Renaissance

R. **Saban**

Résumé

Depuis près de trois mille ans, dans nos civilisations, la connaissance du corps humain ne progresse, tout d'abord, que très lentement en raison d'interdits. Le corps est sacré et la Médecine n'envisage que les plantes pour guérir. Hippocrate ne connaît pas l'anatomie, car on ne dissèque pas le corps humain. Il élabore une théorie des humeurs associée aux éléments primordiaux opposant le sec à l'humide. Sans connaître les nerfs, il constate cependant la localisation cérébrale des émotions provoquées par des particules (pneuma) émises par les objets qui nous entourent. Galien fut un des premiers à parler de physiologie, mais il n'eut la possibilité que de disséquer des animaux pour comprendre l'Homme. Toutefois, il reprend les théories des humeurs sans résultats concrets, ne voyant dans le cerveau que des substances excrémentielles. Il faut attendre l'an 1000 pour qu'Avicenne essaye de matérialiser la théorie cellulaire avec ses trois cellules (ventricules actuels) directement en rapport avec les nerfs, qu'il décrit mais ne figure pas. Ce n'est qu'au milieu du XIIIe siècle que ces fameuses cellules seront représentées par Khalifah dans son traité d'ophtalmologie. Enfin, à la Renaissance, où le livre transmet à la fois le texte et l'image, les prémices de la physiologie du cerveau apparaîtront tout d'abord chez Albert le Grand, reprit dans un incunable publié en 1473, qui décrit et figure non plus trois cellules mais cinq. Ensuite, Léonard de Vinci qui disséqua de nombreux cadavres pour comprendre la morphologie du corps humain, à la fin du XVe s. Malheureusement, on ne connaîtra ses travaux, d'une grande rigueur anatomique, qu'à la fin du XIXe s. Il pratiqua les premières coupes anatomiques du cerveau. Et c'est enfin Magnus Hundt puis Georg Reisch qui, au début du XVIe s., figurent encore les trois cellules d'Avicenne, mais ce dernier décrit des liaisons nerveuses plus complexes entre les organes des sens.

Summary

For more than 3,000 years in Western civilizations, the knowledge ofthe human body gainedvery little ground at first, due to taboos. The body was regarded as sacred and Medicine only resorted to plants in order to heal. Hippocrates was not familiar with anatomy as the human body could not be dissected. He developed a theory ofhumors connected with the primary éléments and opposing the dry and the moist. Even though he did not know the nervous System, he nonetheless pointed out that émotions stemmed from the brain and were caused by particles (pneuma) emittedby the objects aroundus. Galien was one of the first to mention physiology but could only dissect animais to understand Man. He took up the theory ofhumors but did not reach any concrète resuits as he considered the brain as made up of faeces. Only in 1000 AD didAvicenne try to shape the cell theory with its three cells (the ventricles in today's parlance) in direct relation to the nerves, which he described but did not represent. Représentation of the nerves was only be given in the mid-13th century by Khalifah in his ophtalmology treaty. Finally, du ring the Renaissance, when books started conveying both text and pictures, brain physiology emerged; Albert le Grand was its first expounder and his work was then taken up in a 1475 inculabulum in which 5 cells instead of 3 are described and represented. Leonardo da Vinci was the second one; at the end of the 15"^{1} century he dissected may corpses to understand human morphology. Unfortunatelyhis work, which was conducted very rigorously from an anatomical point of view only surfaced at the end of the 19^{h} century. He was the first to conduct the anatomical cross-dissection of the brain. Last came Magnus Hundt and Georg Reisch; in the early 1&^{h} century they still represented the three cells of Avicenne even though Reisch described more sophisticated connections between the organs of the sensés.

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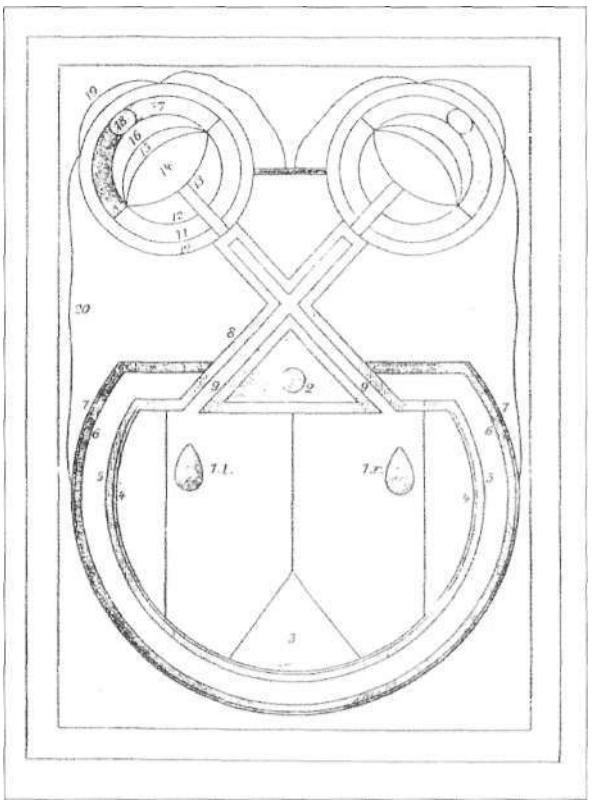
Fig. 1 - Galien, Avicenne et Hippocrate d'après un manuscrit latin (BNF 6966).

Pour comprendre ce qu'a été le lent cheminement de la pensée médicale vers la Physiologie telle que nous la concevons de nos jours, c'est-à-dire l'étude des phénomènes vitaux chez les êtres organisés et des fonctions par lesquelles la vie se manifeste dans les organismes, il faut pour cela remonter à l'Antiquité. Pour les Grecs, c'est l'explication générale de la nature des choses *(physis),* en ayant recours à quelques éléments fondamentaux comme l'eau, l'air et le feu. Trois personnages hors du commun en seront les principaux acteurs : Hippocrate, Galien et Avicenne (fig. 1).

Hippocrate (460-377 av. notre ère), le père de la Médecine, recherche les causes des maladies par l'observation, mais il ne connaît pas l'anatomie car la religion lui interdisait la dissection du corps humain. Très imprégné des Philosophes, il conçoit une théorie des humeurs, mettant en pratique une recherche des éléments fondamentaux comme les humeurs, le sang, la bile, la pituite, associés à l'humide comme l'eau ou au sec comme l'air et le feu. Sans connaître les nerfs, il constate la localisation cérébrale des émotions. Il admet que des particules naissent des objets qui nous entourent et qu'il nomme pneuma. Celles-ci viennent frapper les organes périphériques avec réciprocité entre le sens commun et la chose perçue tant dans la vision que dans la perception des vibrations pour le toucher ou la gustation. Il considère l'air comme véhicule du pneuma.

Galien (129-199), adepte d'Aristote, fut un des premiers physiologistes. Médecin de Marc Aurèle, il recherche l'usage des parties pour connaître la fonction d'après l'organe ou l'acte accompli chez quelques animaux afin d'en déduire, par le bon sens, le fonctionnement de l'organe, réalisant ainsi plus une observation détaillée qu'une véritable expérimentation. Ses travaux sur le système nerveux lui permirent de décrire le parcours de l'influx nerveux à partir du cerveau dans les nerfs, d'après une expérimentation succincte chez l'animal (singe, porc et bœuf). Reprenant la théorie des humeurs d'Hippocrate, il considère que le cerveau de l'homme est empli, dans ses ventricules, de substances excrémentielles subtiles, qui s'évaporent à travers les sutures crâniennes, tandis que d'autres, plus grossières, descendent au contraire à tra-

Fig. 2 - Les ventricules cérébraux dans la "Chirurgie de l'œil" de Khalifah 1266, d'après Hirschberg, 1985. 1. Ventricule antérieur ; 2. ventricule médian ; 3. ventricule postérieur ; 8. chiasma.



vers le crible ethmoïdal et s'écoulent par le nez. C'est encore Galien qui décrira le réseau admirable chez le bœuf. Ce réseau, situé à la base du cerveau n'existe pas chez l'homme. Toutefois, Vésale (1) grand réformateur de l'anatomie le figure toujours chez l'homme en 1543

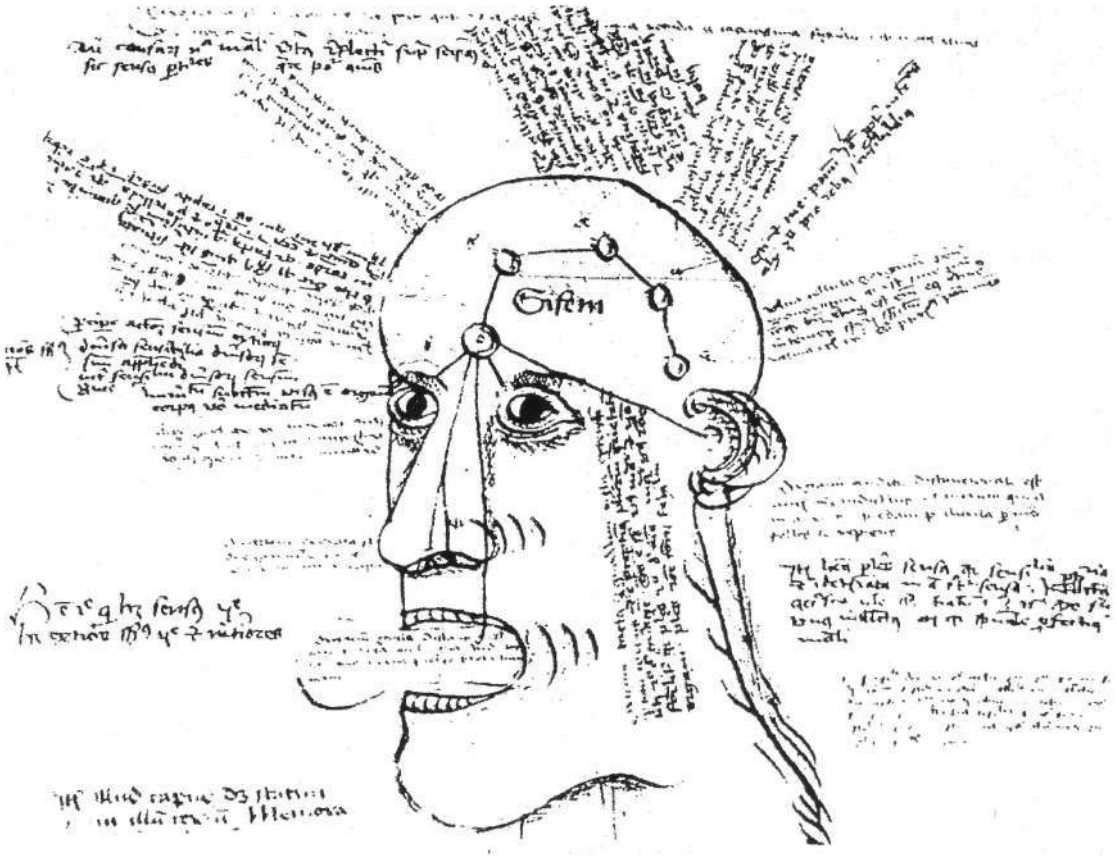
Avicenne (Abou el Ala Hossein Ibn Sina) né en 980 à Khormeytan, près de Bokhara (Turkestan), mort en 1037, est un autodidacte. Il reçoit l'enseignement des visiteurs de son père, collecteur d'impôts, en mathématiques, en sciences et en philosophie. Protégé par le sultan Mansour qui lui ouvrit sa bibliothèque où il travaillait presque jour et nuit, s'endormant parfois après avoir pris un verre de vin, revoyant en songe la réponse à ses questions. Un jour la bibliothèque ayant pris feu, il fut accusé de l'incendie et s'enfuit vers la Caspienne où le médecin Mohamed Chiraz le recueillit ; c'est là qu'il écrira "Les canons de la médecine". Ensuite, le prince Quabus en fera son ministre, comme le relate Sleim Ammar (2).

Le deuxième volume des Canons est consacré à l'Anatomie et la Physiologie de l'Homme qu'il envisage de la tête aux pieds. C'est vers l'an 1000 qu'il aborde le cerveau par la description des ventricules. Il en fait la localisation des facultés mentales et sensorielles. Il établit la doctrine cellulaire qui considérait le cerveau humain sous forme de trois cellules, localisations du sens commun de la raison et de la mémoire. Cette conception perdurera jusqu'au début du XVIe siècle.

La première illustration (fig. 2) en est donnée dans le dernier manuscrit arabe d'un traité d'ophtalmologie de Khalifah de Syrie en 1266 conservé à Jami (Hirschberg, 1985) (3). On y reconnaît en 1) les deux ventricules latéraux antérieurs ; en 2) le ventricule médian (3e ventricule) et en 3) le ventricule postérieur (4e ventricule), la troisième cellule d'Avicenne. Depuis Avicenne, cette subdivision de l'âme en fonctions élémentaires se perpétuera jusqu'à la Renaissance. C'est en effet, avec la découverte de l'imprimerie à caractères mobiles, par Gutemberg en 1450, que le livre permettra de transmettre à la fois le texte et l'image dans les premiers incunables. Ces ouvrages feront la somme de nos connaissances moyenâgeuses.

Parmi de tels livres, les travaux d'Albert le Grand (1183-1280) seront repris en 1473 et publié dans un des premiers incunables *"Parvulus philosophiae naturalis".* Cet ouvrage figure une des premières représentation de la théorie cellulaire (fig. 3). Il met en évidence cinq cellules conciliant la représentation avec la théorie hippocratique des humeurs et des contrastes d'organes humides et secs, opposant les fluides à l'air, théorie reprise par Galien. Clarke et Dewhund (4) nous montrent que parmi ces cinq cellules, la première, humide, caractérise le sens commun qui n'y séjourne que fort peu de temps ; la deuxième, sèche, pour l'imagination afin de conserver la matière mentale ; la troisième, sèche était l'organe de la fantaisie ; la quatrième, humide, contrôle chez l'homme les facultés estimatives, mais cognitives chez l'ani-

Fig. 3 - Les cellules cérébrales figurées par Albert le Grand dans **Parvulus philosophia naturalis** *en 1473 (BNF).*



mal ; la cinquième redevient sèche, elle concerne la mémoire et constitue une zone de stockage des informations. La fonction cérébrale est aussi envisagée de façon dynamique en passant de l'une à l'autre cellule.

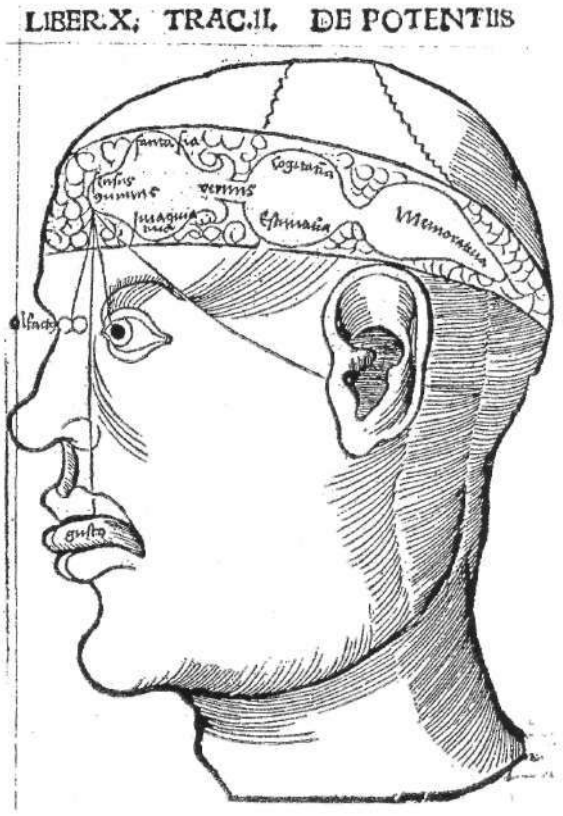
A la fin du XVe siècle, Léonard de Vinci prend conscience de la valeur de l'anatomie dans la représentation artistique. Il n'hésite pas à réaliser de véritables dissections, par nécessité, pour comprendre les formes corporelles, mais surtout par curiosité. Il devient anatomiste et désire entreprendre une sorte d'Encyclopédie de l'Homme, qui malheureusement ne verra jamais le jour. Acette fin, il dissèquetout d'abord à l'Hôpital de Milan où il exécute ses plus anciens dessins anatomiques vers 1490. Dès 1500, il autopsie plusieurs cadavres à Florence. Enfin, il va à Rome et travaille pour Julien de Médicis, mais poursuit néanmoins ses recherches anatomiques. Dénoncé par ses détracteurs qui profitent, en 1515, de la mort de son protecteur, le Pape Léon X, frère du défunt, l'accuse de sacrilège et lui interdit la salle d'autopsie. Poussé alors par le désir de quitter Rome, où Raphaël et Michel Ange régnaient en maîtres, il accepte, en l'année 1516, l'invitation de François Ier, vainqueur de Marignan, à venir en France. Pensionné par le Roi, il s'installe en 1517 au Manoir des Cloux, près d'Amboise où il mourra le 21 mai 1519. Il nous laissa de ses dissections de magnifiques dessins, y fixant à jamais ce qu'il voyait, dessins pleins de détails dans l'agencement des organes. Il est le premier à nous montrer des coupes dans les trois plans de l'espace. Il fait même un premier dessin du cerveau en 1490. Encore imprégné de la théorie cellulaire de la localisation ventriculaire, comme nous pouvons le voir dans l'ouvrage de Martin Clayton et Ron Philo (1992) (5), il montre tout d'abord une coupe sagittale de la tête humaine avec les enveloppes du cerveau et les rapports de ce dernier avec le crâne. Puis, il figure une coupe détaillée de l'œil conforme à celle de

Fig. 4 - Les ventricules cérébraux représentés par Léonard de Vinci, 1508 (Schlossmuseum de Weimar).

Khalifah. Par contre, sa représentation des cellules ventriculaires sur une autre coupe cette fois-ci horizontale reste encore très fantaisiste, toujours d'après la conception moyenâgeuse des trois cellules alignées se partageant les facultés mentales (Quademi, f°6 verso, Windsor). La première cellule contient le sens commun, où convergent les nerfs sensoriels et où se trouve également l'imagination *(fantasia)* ; de là, les influx passent dans la seconde cellule, siège des facultés intellectuelles *(cogitatio, estimatio)* ; la troisième conservait le tout dans la mémoire. Quelques années plus tard, en 1504, il cherche à définir anatomiquement ces ventricules pour en connaître à la fois la forme et le volume, mais aussi les rapports. Pour cela, il expérimente pour la première fois la réalisation d'un moulage en cire des ventricules du cerveau du bœuf, ayant constaté au cours de ses dissections qu'il pouvait ressembler à celui de l'homme (Quaderni f°7, recto, Windsor). Il s'était pour cela souvenu de la technique des bronziers de Florence qu'il fréquenta pendant sa jeunesse. Il montre ainsi la complexité du système ventriculaire sur deux coupes sagittales et deux transversales. Il demeure encore cependant très perplexe sur le siège des facultés. Sur le dessin en haut à gauche, le ventricule antérieur est bien observé, désigné comme *impressiva,* le médian concerne le sens commun, et le postérieur la mémoire. Ceci diffère sensiblement de sa première interprétation en 1490, mais il est également en contradiction avec le dessin du bas à droite, autre coupe sagittale. Léonard y mentionne, d'après Martin Clayton et Ron Philo (1992) (5) : *"le ventricule a (ventricule postérieur) situé à l'extrémité de la moelle épinière [...] nous pouvons estimer que le sens du toucher aboutit à ce ventricule",* ce qui modifie encore sa conception des fonctions des ventricules latéraux qui devaient recevoir tous les nerfs sensitifs. Les deux coupes transversales en haut, à droite, et en bas à gauche, montrent l'ensemble des ventricules. La première, en vue supérieure, présente les ventricules latéraux avec le trou de Monzà, le troisième ventricule, l'aqueduc de Sylvius, puis le quatrième ventricule en continuité avec la moelle épinière. L'autre dessin est une vue inférieure où se voit le réseau admirable qui n'existe pas chez l'homme mais est présent chez le boeuf. C'est le lieu où les esprits animaux atteignent leur dernier degré de perfection avant d'entrer dans le quatrième ventricule.

Il existe au Schlossmuseum de Weimar une autre planche de Léonard de Vinci (fig. 4) qui résume sa dernière mise au point de ses dissections du cerveau humain en 1508. Sur cette coupe sagittale, il attribue aux deux ventricules latéraux la fonction de perception au ventricule médian, celle du sens commun, au ventricule postérieur la mémoire et ne figure encore que

Fig. 5 - Magnus Hundt. Les trois cellules d'Avicenne et les nerfs crâniens. Anthropologicum de hominis *1501 (BIUM, Paris, 5586).*



les cinq paires de nerfs crâniens connus de Galien, mais montre le croisement des nerfs optiques (voir R. Saban, 1989) (6).

Malheureusement le livre de Léonard ne verra jamais le jour et ses dessins annotés ne seront découverts qu'à la fin du XIXe siècle dans les caves du Vatican. Magnus Hundt (7) dans son livre, publié en 1501 *"Anthropologium de hominis"* figure toujours les trois cellules d'Avicenne (fig. 5). Les ventricules y sont alignés en relation avec les organes des sens, l'antérieure représentant le *sensus commune,* la *fantasia* et l'*imaginatio,* reliée au quatre principaux sens (vision, audition, olfaction et goût). Cette cellule communique avec la suivante par un vermis à laquelle il attribue la *cogitatio* et *estimatio,* pour finir dans la dernière avec la mémoire.

Quelques années plus tard, Georg Reisch (8) publie, en 1504, *"Margarita philosophica".* Il montre plus clairement les liaisons nerveuses plus complètes avec les ventricules (fig. 6). La cellule antérieure concerne toujours le sens commun et l'imagination reliés simplement à la vue et l'audition. Le médian marque les fonctions intellectuelles avec la logique reliées à la vue et au toucher, tandis que le postérieur, siège de la mémoire est relié au goût, à l'olfaction et au toucher, mais également à l'audition. Il représente toujours le fameux réseau admirable de la base du cerveau.

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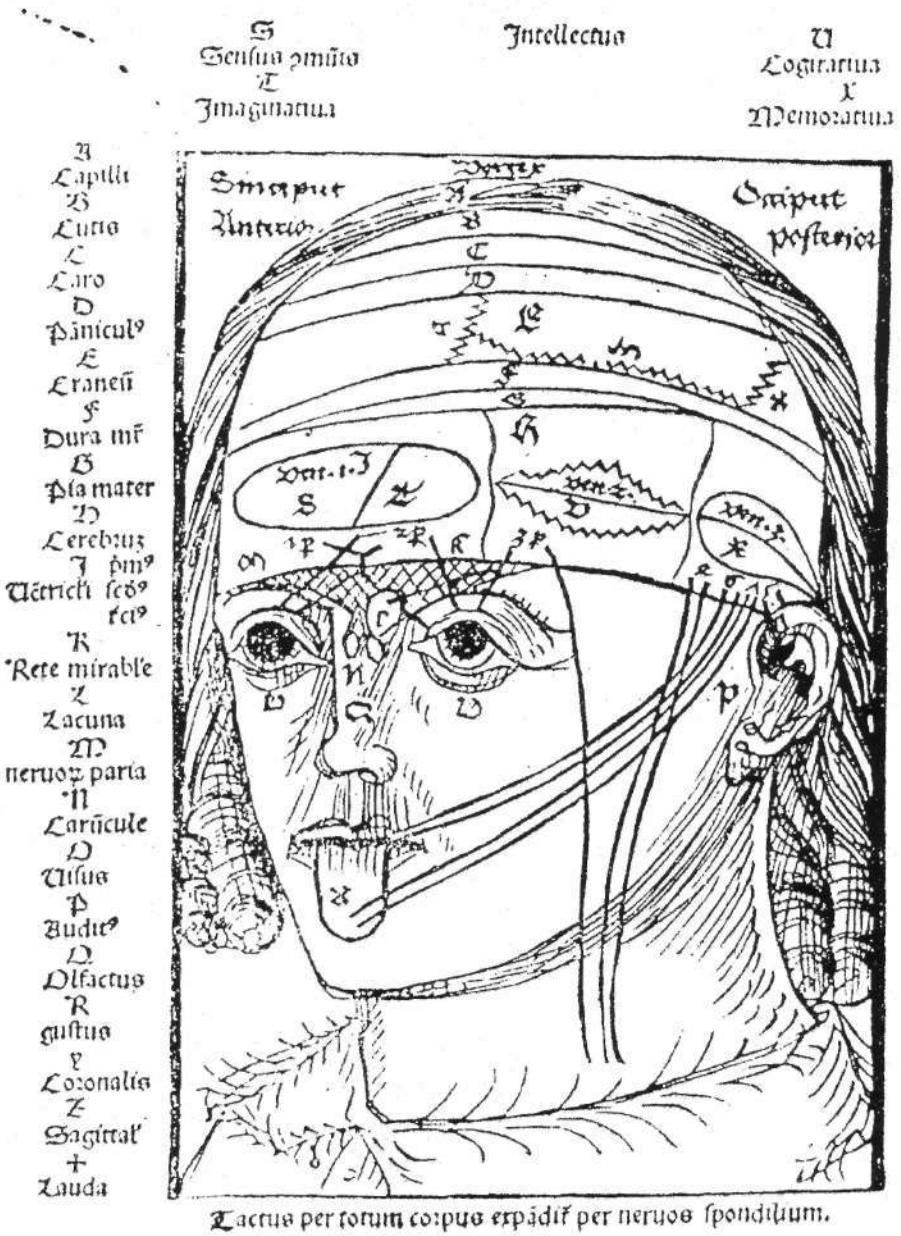
Fig. 6 - Georg Reisch. Les trois cellules d'Avicenne et les nerfs crâniens. **Margarita philosophica,** ***1504 (BIUM. Paris, 8026).***



Biographie

Roger Saban fait ses études supérieures à la Faculté des Sciences de Paris (1952). Il passe son doctorat es Sciences naturelle en 1963. Chercheur au CNRS de 1952 à 1954, il fait sa carrière au Muséum national d'Histoire naturelle comme assistant (1954-1962), puis sous-directeur de laboratoire (1962-1981) et professeur (1981-1989) au laboratoire d'Anatomie comparée. Ses recherches en Anatomie comparée sont axées sur le squelette post-crânien et la musculature de la tête des Mammifères. Il a, depuis 1972, pu mettre en évidence l'évolution de la vascularisation méningée des Primates à l'Homme actuel par l'étude des moulages endocrâniens. Depuis 1997, il a la charge des Musées d'Anatomie Delmas-Orfila-Rouvière de l'Institut d'Anatomie, UFR Biomédicale de l'Université René Descartes,

Principaux travaux : -Traité de Zoologie, le squelette post-crânien des Mammifères *16.1,1966 ;* musculature de la tête des Mammifères *16.2,1968.* -Anatomie et évolution des veines méningées chez les Hommes fossiles, *1984.* -Aux sources du langage articulé, *1993.*

Vesalius, V, 1,48-52, 1999

Symposium Report

"Hippocrate et sa postérité"
Colloque tenu à Bruxelles, les 7 et 8 mai 1999

Ce colloque, d'une hauteteneurscientifique, se tint dans l'auditoire du Musée de la Médecine sous la présidence de Simon Byl, professeur à la faculté de Philosophie et Lettres de l'Université de Bruxelles, qui dans son discours d'accueil posa d'emblée la question s'il faut continuer à considérer Hippocrate comme "le père de la médecine". Ce n'est pas parce que Platon ouAristotelementionnenttrèsocasionnellement - ce qui prouve qu'il jouissait déjà d'une certaine renommée de son vivant - qu'il faut sans discernement l'aduler comme divin ou comme "étoile polaire de la médecine". D'autres le qualifieront par après de vieux radoteur ou de prétendu génie. S. Byl se demande si une approche psychanalytique ne serait pas plus indiquée : d'une part la thèse de retour au père et d'autre part celle de révolte contre le père. De toute façon Hippocrate est à considérer comme personnage à la fois historique et légendaire, maillon important dans la lignée des Asclépiades, famille médicale descendant en ligne directe d'Asclépios, dieu fondateur de l'art médical.

La Conférence inaugurale *«L'histoire du corps et de la médecine»,* fut prononcée par Jean-Charles Sournia, ancien président de la Société Internationale d'Histoire de la Médecine, membre des Académies de médecine et de chirurgie de Paris, ancien directeur de la Santé en France.

Il confirme qu'Hippocrate n'est pas nécessairement à considérer comme le père de la médecine rationnelle; d'ailleurs, celle-ci l'est-elle tellement aujourd'hui ? A juste titre il fait remarquer que, depuis la période hippocratique, les traités médicaux ne parlent que fort peu de l'homme non-malade. Or, il convient de rappeler que la morphologie humaine n'est pas idéale et que son évolution n'est pas terminée (la station debout surcharge la colonne lombaire). La microcéphalie de l'homo sapiens est frappante et fait penser à celle du dinausore. L'histoire des moeurs trace l'évolution de l'image que l'homme se fait de son corps. Celle-ci est influencée par la culture, la géographie et la religion.

Dès la petite enfance nous nous forgeons une forme de conscience de notre corps, conscience innée et acquise. Le christianisme introduit la notion de culpabilité en ce qui concerne la maladie. La conception du corps à la Renaissance est encore fort imprégnée d'allusions au divin. La médecine anatomopathologique du 18e siècle considère le corps comme objet, tout phénomène demandant à être confirmé par reproductibilité. Toutefois les non-médecins, les patients, continuent de tout temps à avoir des idées approximatives et irrationnelles de leur corps. La science est pour eux comme une toxicomanie. Le médecin se trouve confronté à un dilemne : d'une part, n'ayant étudié que la maladie, il essaye d'effacer les données de l'enseignement populaire, mais d'autre part il ne parvient pas à savoir comment le malade s'imagine le fonctionnement de son corps. L'irrationnel pour ce malade, nourri de mythes ancestraux, l'incite à consulter son médecin, médiateur. Les fantasmes corporels changent de génération en génération.

Au milieu du 19e siècle le thème de la dégénérescence fait son apparition en pathologie (dans Pétiologie de laquelle on recherche souvent un vice ancestral, une alliance regrettable, des fréquentations de maisons closes, la folie). La maladie est considérée comme punition. Même au début de ce siècle, Alexis Carrell parlait encore de dégénérescences transmissibles. Vers les années 1950 surgit un nouvel avatar de la dégénérescence : la génétique, la médecine prédictive. Les médecins sont consi-

dérés comme des devins et les malades comme des inquiets perpétuels, réalisant difficilement que l'on ne peut leur fournir que des résultats à considérer comme probabilité, et que chaque humain est porteur d'une certaine dose d'irresponsabilité échappant à toute thérapeutique. Le médecin tentera d'intervenir comme intermédiaire pour redresser les préjugés des malades.

La scéance inaugurale fut clôturée par une introduction à l'exposition *«La médecine au temps d'Hippocrate».* Parfaitement agencée au 2° étage du Musée de la Médecine de Bruxelles, les objets furent exposés selon 6 thèmes : la médecine de guerre, le sport, le médecin, le Corpus Hippocraticum, la pharmacopée et les dieux guérisseurs. La tradition des belles expositions temporaires dans le musée du Prof. T. Appelboom fut à nouveau entièrement respectée. Le mérite de cette réalisation revient à Mmes L. Benistant, D. Gasparon, V. Sizaire et A. Verbanck, ainsi qu'au Dr A. de Meeus.

Le lendemain, après quelques mots d'accueil prononcés par S. Byl, qui souligna l'intérêt que plusieurs savants belges portent à l'étude des relations entre médecine et philosophie grecque, Hervé Hasquin, ministre et historien, introduisit lajoumée, reprenant par ailleurs quelques thèmes déjà évoqués la veille par J.C. Sournia. Tout comme la médecine, l'histoire est également un art et non une science exacte. Les deux disciplines ont pour objet l'étude de l'humain, de l'homme. Il faut aimer l'homme pour pouvoir pratiquer à la fois l'histoire et la médecine. Hippocrate était-il un imposteur, tous ses écrits sont-ils apocryphes ? On ne peut en tout cas pas nier qu'il refuse le dogme, l'assujettissement aux mystères ioniens. On pourrait considérer cela comme forme précoce de libre examen. Hippocrate percevait parfaitement l'humain et sa pathologie, prise dans son ensemble dépendant de l'hygiène, du climat, de ses activités physiques, de l'environnement. En cela il se distanciait définitivement de la conception de maladie vécue comme un châtiment de Dieu.

Bruno Vancamp, professeur de philologie grecque et grand spécialiste de Platon esquissa le personnage d'Hippocrate et le situa dans son époque.

Il n'est plus permis de douter qu'Hippocrate fut réellement un personnage historique, né vers 460 avant J.C. dans l'île Dorienne de Cos, membre de la lignée des Asclepiades. Les premiers témoignages littéraires de sa renommée peuvent être retrouvés dans le "Protagoras" et le "Phèdre" de Platon ainsi que dans le "Politique" d'Aristote. Il s'agit toutefois de témoignages très minces reposant sur des bases très fragiles. Quant à ses écrits, ce n'est qu'avec prudence que l'on peut évoquer les "Epidémies I et III" ainsi que le "Traité sur les Articulations" comme étant probablement de sa main. Ce sont ses disciples qui auraient rédigé la majeure partie du "Corpus Hippocraticum", et ceci en grec ionique, dialecte véhiculaire de la pensée. La seconde moitié du 5e siècle avant notre ère, le siècle de Périclès, était remarquable à plusieurs points de vue, bien que ce ne fut pas une époque paisible (pensons à la guerre du Péloponèse). D'un point de vue culturel on retiendra le chantier du Parthénon; mais c'est toute la vie intellectuelle qui connut un épanouissement extraordinaire. Les sophistes introduisirent un nouveau mode de réflexton éthique et théorique. L'homme reste la première préoccupation tant des sophistes que des médecins. Hippocrate n'a probablement jamais mis les pieds à Athènes mais entreprit une longue pérégrination en Thessalie, partie mystique des Asclepiades et aboutit à la fin de sa vie à Larissa où il s'éteignit vers 370 avant J.C.

Hippocrate enseignait à ses disciples comme un véritable chef d'école. Là où précédemment la médecine se transmettait uniquement de père en fils, le savoir et le droit au savoir s'ouvraient aux autres.

Hippocrate pratiqua 3 activités médicales. En premier lieu, la description nosologique, faite

en fonction des divers facteurs climatiques avec établissement de fiche sur l'évolution quotidienne de la maladie. En second lieu, la thérapeutique qui reste très faible : une chirurgie embryonnaire. La théorie physiologique des 4 humeurs reflète son impuissance à trouver des remèdes efficaces. Il attacha plus d'importance au pronostic. En dernier Lieu, l'activité théorique qui consiste en une réflexion à propos de l'art médical : la médecine accède enfin au statut d'activité autonome : une profession de foi rationaliste repoussant la causalité divine, sans rejet du divin en soi, mais ne transformant pas immédiatement la médecine en science : Hippocrate n'était pas médecin dans le sens qu'on le conçoit aujourd'hui.

Mirko Grmek, membre de la SIHM, directeur à l'Ecole Pratique des Hautes Etudes procéda ensuite à l'*étude de quelques cas cliniques des Epidémies V et VII d'Hippocrate.* Plus le texte clinique est technique, plus la collaboration entre philologues et médecins s'avère nécessaire. Littré entreprit de poser quelques diagnostics rétrospectifs. Bien entendu, iltint souvent compte des connaissances médicales de son époque scientiste et il se trompa donc parfois. Ainsi un cas du livre VII : un enfant de 4 mois avec une douleur au niveau de l'ombilic et un enfoncement d'une suture crânienne est-il interprété par Littré comme craniotabes, par d'autres comme rachitisme et par Grmek comme histiocytose X. D'autres exemples sont encore cités. Les mots en eux-mêmes ont également parfois changé de signification. Le choléra et la lèpre étaient considérés autrefois comme syndrome et non comme entité nosologique distincte.

Grmek revint au concept de «pathocénose» qu'il introduisit lui-même dans l'étude de l'histoire de la médecine. Dans la distribution de fréquence des phénomènes pathologiques il faut tenir compte de l'aire géographique et de la période concernée; néanmoins il y a des maladies que la pathocénose grecque n'a pas pu conceptualiser : la tuberculose et le paludisme.

Certains termes tels que "pneuma" peuvent avoir2significations:airou respiration. D'autres termes ont été mal transcrits, p.ex. kufoma, gibbosité n'est pas à confondre avec kofoma, surdité. En conclusion Grmek nous invite à être extrêmement prudent avant de poser des diagnostics rétrospectifs : il s'agit souvent de conjectures où il convient d'être conscient de ses limites.

Marie-Hélène Marganne, maître de conférence à l'université de Liège, papyrologue et historienne de la médecine insiste sur le mérite de la bibliothèque d'Alexandrie dans la réunion, la conservation et la transmission du Corpus Hippocratique. Les médecins célèbres du 5° au 7° siècle, tels Oribase, Aetius et Paul d'Egine ainsi que le pharaon Ptolémée I Soter ont contribué au rayonnement de cette institution.

En ce qui concerne les oeuvres hippocratiques, il n'y a jamais de nom d'auteur mentionné. Il persiste un manque d'information en ce qui concerne l'organisation médicale et l'enseignement de la médecine à Alexandrie. Par contre c'est suite à certaines décisions critiques prises à Alexandrie qu'il fut décidé quels écrits seraient considérés comme hippocratiques et lesquels ne l'étaient pas. L'étude des 29 papyrus hippocratiques grecs actuellement resencés permet de se faire une idée de l'influence d'Hippocrate sur la médecine de l'Egypte gréco-romaine. Ils restent importants pour les textes tels quels, pour les textes qu'ils reprennent, et en ce qui concerne l'information sur l'activité médicale en Egypte. Ils témoignent de la renomée du médecin de Cos dans les pays de la région du Nil du 3e siècle avant Jésus Christ jusqu'au 6e siècle après Jésus Christ. C'est en effet dans le cercle d'Herophile et de ses disciples que débutèrent les pemiers travaux d'exégèses et de commentaires des textes hippocratiques.

Danielle Gourevitch, successeur de Mirko Grmek comme directeur à l'Ecole Pratique des hautes Etudes de la Sorbonne, étudie quelques

cas pédiatriques tant d'un point de vue médical que littéraire et leur signification dans le système galénique. Il s'agit de l'influence d'un bon choix de nourrice. Galien a soigné des patients de toutes les classes et de tout âge (sauf des fillettes). Il divise la vie en 4 âges (par analogie aux 4 saisons, aux 4 humeurs, aux 4 tempéraments). Le nourrisson est le plus jeune de ces 4 âges : le "Paidion". D'après Galien, il est difficile de rendre ces petits enfants heureux. Ce sont les plus misérables des créatures. Galien ne s'intéresse que fort peu aux enfants malades, mais souligne néanmoins l'importance du choix de la nourrice. Dans un cas il décrit des ulcères de carence chez le nourisson (scorbut ? pelade ?) qu'il attribue à la mauvaise qualité du lait de nourrice, elle-même se nourrissant mal. Les sucs alimentaires provenant de plantes sauvages seraient à l'origine de mauvaises humeurs. Le second cas pédiatrique est également celui d'une nourrice pauvre chez qui l'enfant dont elle avait la charge, enfant sale, présentait des jambes arquées et était bossu : probablement un cas de rachitisme pour lequel un bandage serrant était apposé en-dessous du thorax, des exercices physiques prescrits et des exercices de rétention de souffle conseillés : le caractère humide et malléable du corps de l'enfant permettait d'espérer obtenir un résultat. Dans ces deux cas pédiatriques comme dans tous les autres, Galien fait preuve de l'expérience clinique d'un grand clientéiste.

Danielle Jacquart, professeur à l'Ecole pratique des Hautes Etudes, titulaire de la direction d'étude «Histoire des Sciences au Moyen Age» aborda le sujet *«Hippocrate, astrologue au Moyen Age».* D'après Abou Machar (Vile siècle) certains médecins de villes réfutent l'astrologie, qui se réfère à «Airs, Eaux et Lieu».

Il faut tenir compte du mouvement de la terre, du soleil et des astres pour fixer les jours critiques pour examiner le patient. Il faut également tenir compte des positions lunaires et planétaires. L'apocrypte tardif du 12e siècle suffit à faire d'Hippocrate le père de l'astrologie médicale. Dès lors, le médecin ignorant l'astrologie est considéré comme imparfait, aveugle. Après les phases lunaires et les 12 signes du Zodiaque, on parvient à établir un pronostic, on parvient également à connaître des maladies, à poser des diagnostics indécelables en médecine classique.

Dans le même ordre d'idée les médecins du Moyen Age se basaient sur le traité des jours critiques de Galien. Ainsi, Constantin l'Africain fait état ,dans ses oeuvres, des changements de saisons et des modifications de l'air qui sont à l'origine des changements dans le corps humain et l'exposent à certaines formes de maladies. Dans son ouvrage sur la nature humaine, Constantin l'Africain parle du développement du foetus et précise son inviabilité au courant du 8e mois de la grossesse, suite à l' influence de Saturne. Les médecins du Moyen Age cherchaient des données astrologiques pour trouver une explication rationnelle à certains phénomènes médicaux. A partir des 12e et 13e siècles, le mot et le statut de "science" apparaissent, s'opposant aux mots "techne" et "art". Le statut de science se base sur l'épistème, sur la logique Aristotélicienne, sur le raisonnement démonstratif et, dès lors, les médecins essaient ainsi de justifier rationnellement le phénomène des jours critiques. Plusieurs auteurs, se fiant aux observations astrologiques, sont ensuite cités par l'orateur. Il se réfère à Hippocrate, inventeur d'une médecine savante excluant l'arbitraire. En conclusion, Mme Jacquart soutient que, si Galien fut le maître des doctrines, la lecture des Aphorismes d'Hippocrate servit souvent de support à une réflexion sur les conditions de la pratique médicale, menant aune prise en compte du patient dans toute sa dimension humaine et dans son environnement tant naturel que social. Au-delà de son aide aux pronostics, c'était aussi l'une des fonctions de l'approche astrologique du 15e siècle. C'est un médecin célèbre comme Jacques Despars, d'origine belge qui s'opposerait à l'astrologie.

Jean-Noël Missa, docteur en médecine et en philosophie, enseigne à l'Université de Bruxelles. Chez les anciens, deux conceptions différentes relatives au substrat de l'esprit peuvent être distinguées. D'une part une matière particulière, un autre substrat physico-chimique, un dualisme avec une matière-corps et une matière-esprit. Démocrite distingua les atomes sphéroides des atomes polymorphes. Le siège de l'esprit est situé dans le coeur (Homère) dans le cerveau (Platon, Démocrite). D'autre part, dans l'Antiquité, l'esprit fut également considéré commeune propriété dépendante de la structure de notre cerveau.

Les conceptions d'Hippocrate et de Galien ont exercé une influence considérable en neurologie jusqu'au 17e siècle. Hippocrate décrit la maladie sacrée et considère le cerveau comme centre de la pensée et l'air comme le substrat de celle-ci. L'intelligence réside dans le ventricule gauche et commande au reste de l'âme. L'âme (le feu) résulte d'une distillation des éléments du sang. Galien fut à l'origine de la théorie du triple pneuma, de l'esprit animal qui, par de multiples détours, aboutit aux nerfs creux. Ces théories influenceraient encore, aux 17e et 18e siècles, le premier modèle matérialiste propagé à ce moment-là : Gassendi et ses disciples considèrent l'âme comme des particules ultra-fines. Descartes de son côté considère l'âme comme une propriété de la matière cérébrale, une propriété de l'organisation du système nerveux central. La pensée est interprétée comme principe d'une nature matérielle particulière. Ce raisonnement sera repris par Diderot.

Les physiologues sont à la base de plusieurs théories du 16 au 19e siècle. Willis considère le phénomène de distillation comme base de fabrication d'esprit animaux; Malpighi préconise que l'écorce du cerveau produit des sucs nerveux; Hartley croit que ce sont des vibrations qui véhiculent l'information des nerfs vers le cerveau. L'électrophysiologie fait un bond en avant au 19e siècle avec Galvani et sa théorie d'influx nerveux. A la fin du 19e siècle la neuroscience fait définitivement son apparition (Broca) sur des bases biologiques et une théorie matérialiste de l'esprit s'impose et élimine définitivement les doctrines précédentes basées sur l'esprit animal et sur l'esprit de matière différente.

Le symposium fut clôturé par Jacques Jouanna, professeur à la Sorbonne, auteur de l'ouvrage de référence sur Hippocrate, ainsi que de nombreuses études philologiques hippocratiques. Il souligna l'importance de l'apport du médecin et philosophe du 18e siècle, Coray de Montpellier, dans le rayonnement de la postérité de l'hippocratisme. En 1800, Coray fit paraître à Paris une édition critique *6'"Airs, Eaux et Lieux"et* ceci après avoir surmonté de multiples obstacles : un manque de ressources, sa santé fragile et la tourmente révolutionnaire. Cet ouvrage fut fort apprécié par Littré (qui ne fit paraître le premier tome de sa traduction du corpus qu'en 1839). Une grande partie de l'oeuvre scientifique de Coray reste encore à découvrir : une exploration de plusieurs dossiers inédits et de notes critiques sur 40 oeuvres hippocratiques. L'aspect philologique de son travail reste le plus important. Quoique Coray ne se soit pas désintéressé de l'aspect médical, tant la méthode que l'éthique, il était persuadé que les bons médecins de l'Antiquité devaient continuer à servir de référence pour les médecins actuels tant sur la façon de soulager les malades que de les éclairer. Un véritable médecin reste, tout comme Hippocrate l'était avant la lettre, un philosophe des lumières.

Simon Byl prononça le mot de la fin, soulignant que l'hippocratisme est encore bien vivant de nos jours : en témoignent les nombreux ouvrages et colloques qui y sont consacrés. On ne peut que se réjouir qu'un symposium comme celui-ci attire de nos jours encore un public aussi nombreux. La qualité et l'érudition des intervenants y ont largement contribué.

Jean-Pierre Tricot

Book Review

La chirurgie dans l'Egypte gréco-romaine d'après les papyrus littéraires grecs

Marie-Hélène Marganne

Brill, Leiden, 1998 (Studies in ancient medicine; Vol. 17) ISBN 90-04-11134-4

On ne s'étonne pas que la chirurgie soit la partie la plus ancienne de la médecine. Combinée à l'origine à la magie, elle devient rapidement un art codifié qui rassemble l'expérience collective de plusieurs générations de praticiens. C'est à la période alexandrine que sont accomplis les progrès les plus remarquables sous l'impulsion des connaissances acquises en anatomie et en mécanique. Le perfectionnement des instruments entraine le développement de la chirurgie externe. Plus de 200 fragments de textes littéraires écrits sur des fibres de Cyperus papyrus ou sur ostraca ou sur parchemin entre -400 et +600 constituent une banque d'information particulièrement intéressante à la frontière entre la papyrologie et l'histoire de la médecine. Sept papyrus ont été analysés par l'auteur et présentés dans ce livre de 192 pages avec traduction et commentaires.

L'auteur montre que l'Art de guérir au début de notre ère, même s'il s'inspire d'Hippocrate, a bien évolué : le médecin, réalise des interventions de chirugie esthétiques, des réductions de luxation d'épaule et de mâchoire non plus à la main mais avec des appareillages; il recourt à la résection par scie en cas de déformation osseuse ; les opérations des yeux sont courantes et s'il pratique toujours des ligatures, cautérisations et saignées, il intervient sur les amygdales, l'appareil génito-urinaire, l'embryon etc.

En résumé, il s'agit d'un travail scientifique particulièrement solide rédigé par une spécialiste de renommée internationale et sur un mode extrêmement rigoureux : le texte grec, la traduction, les commentaires, et de nombreuses références. Plusieurs dessins agrémentent la lecture. Si son titre laisse penser qu'il s'adresse uniquement à des spécialistes, on le redécouvre dés les premières pages par une lecture qui reste agréable et facile. A recommander!

T. Appelboom

Les maladies dans I Art Antique

Mirko D. Grmek et Danielle Gourevitch

Paris, Fayard (Collection "Penser la médecine")
un vol. 15 x 23,5 cm, 518 p., 278 figures. Prix : 180 FF

M. D. Grmek et D. Gourevitch, tous deux directeurs d'études à l'Ecole Pratique des Hautes Etudes (Paris, Sorbonne), ont uni leurs compétences médicales, historiques et philologiques pour écrire ce livre extraordinaire. Extraordinaire, ce livre l'est par sa qualité exceptionnelle mais aussi par son originalité, car il sort complètement des sentiers battus. Il est vrai que les deux auteurs avaient, chacun de son côté d'abord, préparé ce volume depuis une trentaine d'années.

Il y a longtemps que les auteurs se sont rendu compte que l'art antique n'était pas représenté exclusivement par le Discobole de Myron, le Doryphore de Polyclète ou la Victoire de Samothrace. Ils ont été conscients de ce qu'une myriade d'oeuvres artistiques grecques, étrusques et romaines étaient d'"un réalisme digne du musée Dupuytren" (cf. p. 24). Ils ont, dès lors, appliqué à l'art antique une méthode nouvelle baptisée en 1983 *iconodiagnosticeX* appliquée à la préhistoire par Pontius, psychiatre à

Harvard (= diagnostic rétrospectif des maladies fondé sur des images et qui complète les informations fournies par les anciens médecins tels qu'Hippocrate et Galien et par des anciens historiens tels que Polybe et Plutarque).

A la page 8, les auteurs posent une question fondamentale : "comment se fait-il qu'elle (= la maladie) puisse entrer dans le domaine des beaux-arts ?". En lisant les réponses qu'ils donnaient à leur interrogation, je m'étais dit qu'il aurait fallu y ajouter l'influence énorme qu'ont joué sur la mentalité gréco-romaine les épopées (au premier rang desquelles celles d'Homère) et les tragédies fondées elles-mêmes sur la mythologie. En réalité, le complément que j'aurais voulu trouver à la p.8 sqq. se trouve à la p. 349 où nous lisons : "Les sujets mythologiques sont imposés par la tradition orale et par la tradition littéraire, notamment l'épopée et les oeuvres dramatiques. A la question posée à la p.8, il y a une autre réponse soulignée tout au long de ce livre : la représentation de la laideur fait rire.

J'ai toujours fait mienne la thèse du psychologue David Victoroff (in *Le rire et le risible,* Paris, P.U.F., 1953) d'après laquelle "tout le monde sait que les infirmes et les malades ont, de tout temps, joué un rôle de premier plan dans le théâtre comique. Les auteurs n'ont pas cessé d'insister, tout au long de leur livre et de l'analyse de plusieurs centaines d'oeuvres antiques, sur le rire que beaucoup de ces pièces provoquaient (cf. p. 24,241, 350,354,356). Je relève ces lignes tout à la fin du livre (p. 356) : "certains défauts corporels, congénitaux ou acquis ... provoquent le rire, la gêne, voire les deux à la fois. Ce rire devant le corps d'autrui est un moyen de défense contre des peurs et des identifications subconscientes. La légende de Thersite montre bien l'enracinement de l'idée que la laideur physique révèle la laideur de l'âme". Les deux auteurs insistent plus d'une fois sur la difficulté, voire l'impossibilité d'un diagnostic rétrospectif (cf. p. 213, 272). Toujours ils font preuve de la plus grande prudence.

Dès la première page, les auteurs nous informent de la nature des centaines de pièces qui ont été analysées : "Les sources iconographiques du présent ouvrage sont ainsi la sculpture monumentale, la coroplastie, la peinture à fresque, la peinture de vase, la glyptique, la numismatique, la gravure sur miroir, la mosaïque, etc.". Ces sources couvrent près d'un millénaire (Vie . av. JC au IVe s. après JC).

A l'exception de très rares passages, le livre est d'une lecture aisée, voire même très agréable : l'antiquiste, qu'il soit philologue, historien ou archéologue, y voit expliquée une grande partie de la mythologie. Si ce livre intéresse beaucoup l'antiquiste, il passionnera certainement l'historien de la méde-cine et le médecin spécialiste ou généraliste, car pratiquementtoutes les facettes de l'art médical y sont représentées : la traumatologie, la toxico-logie, la psychiatrie, la gérontologie, la stomato-logie (qui aurait peut-être dû faire l'objet d'un chapitre à part), la rhumatologie, l'ophtalmologie, l'orthopédie, la gynécologie et l'urologie. Outre une bibliographie très riche et une table des illustrations, trois index complètent l'ouvrage (noms de personnes, notions médicales et noms de localités). L'historien de l'art aussi lira ce volume avec profit, et peut-être parfois avec étonnement, et il sera particulièrement intéressé par le dernier chapitre "Les pièges et les acquis de l'iconodiagnostic : les faux, les pathologies illusoires, la surinterprétation...". Dans le domaine de l'histoire de la médecine, ce livre constitue une contribution scientifique essentielle.

Je tiens à signaler que les auteurs du présent volume se sont ralliés à la thèse du médecin grec Joannes Laskaratos, *Alexandros o Megas,* Athènes, J. & J. Hellas, 1995, selon qui l'inclinaison de la tête du monarque macédonien, attestée aussi bien dans la littérature (Plutarque) que dans la sculpture (Lysippe), est due à un torticolis oculaire (cf. p. 46).

Simon Byl
Université Libre de Bruxelles

Miguel Servet, editor del Dioscorides

Francisco Javier Gonzalez Echeverria

Edited by Ibercaja and Instituto de Estudios Sijenenses
Lerida (Spain), July 1997 (ISBN 84-922923-O-X)

The book contains 100 pages : an introduction, a study and description of this edition and the attribution of authorship to Servetus (1511-1553). The copy was found in Sesma (Navarra). A translation of the 20 *"annotationes"* with additional notes, includes a study on the 277 marginalia and Dioscorides himself, with a bibliography and a final index.

It is *very* important to identify two of Prof. Riddle's Anonymous. Riddle's Anonymous B is identified, by the reviewer, with Michael Servetus (eds : 1543, or *"princeps"* edition, : 546, 1547, two editions by F. Frellon and Paganus, 1550 : in Venice, 1554 and 1555), Servetus is, in part, also the author in Riddle's Anonymous D. This Anonymous author in only one *"adulterated"* edition, printed in 1554, the year after Servetus" death with only A. Mattioli in the title page, but with paragraphs of Mattioli and Servetus (i.e., Riddle's Anonymous B), printed in Lyon by his friends and printers Frellon, Roville, Vincent and Arnoullet. This last was printed in 1553 as his *Christianismi Restitutio.*

A History of Medicine : Roman Medicine (Volume III)

Plinio Prioreschi

Horatius Press, P.O. Box 241527, Omaha, NE 68124-5527
1998 (ISBN 1-888456-03-5)

Volume 3 from Plinio Prioreschi is devoted to Roman Medicine. It encompasses historical and social fields of religion and philosophy, science and technology, medicine before, during and after Galen, Roman military medicine, physicians, education, ethics, hospitals and public health, contraception and abortion, Talmudic medicine, Christianity, Ancient Science and medicine and general conclusions.

The 771 pages have been written with many references supported by an argumentation characteristic of Prioreschi's books. Information is convenient to find by an index of the names essentially of the physicians and of the diseases of the organs.

The author begins with a reference to Asclepiades, discusses the medical schools in Rome (methodists, pneumatists, eclectics), covers Scribonius Largus, Celsus, the Encyclopedists, Dioscorides, Rufusof Ephesus, Aretaeus and mainly Galen. The originality of the concepts are pointed out in all the domains of medicine.

Dr Prioreschi should be congratulated for his extensive knowledge, didactic presentation and scientific approach.

Thierry Appelboom

Vesalius.V, 1,56-59,1999

News from member countries
Nouvelles des pays membres

Canada

There are two national history of medicine meetings in Canada each year, one organized by the Canadian Society for the History of Medicine on which a report has been recently published in the December 1998 issue of *Vesalius,* and one which forms a part of the annual meeting of the Royal College of Physicians and Surgeons of Canada. The prime mandate of the College, established in 1929, is the accreditation, by examination following acceptable training, of clinical specialists and the approval of Canadian hospitals suitable for such training. Starting in 1977, and continuing thereafter, the College invited the executive director of the Hannah Institute for the History of Medicine to arrange for the annual preparation of a history of medicine exhibit to be displayed at the College meeting. This was supplemented, in 1980, by the presentation of a two-hour symposium on a major history of medicine theme, which frequently complemented that of the exibit, with four invited internationally recognized speakers. Three years later, in 1983, a two hour session of peer-reviewed papers proffered by Fellows of the College was added and this pattern continued, with minor variation, until 1995. In that year the executive director of the Hannah Institute, a professional medical historian, whereas previous incumbents had been health professionals with an interest in medical history, asked Dr Peter J.E. Cruse to take over the direction of the proffered paper part of the programme. Dr Cruse, a Fellow of the College and Professor of Surgery at the University of Calgary is an enthusiastic medical historian and a highly effective advocate for the teaching of the history of medicine to medical students. This, not unexpectedly, proved to be a prescription for change.

The evolution of Dr Cruse's history of medicine programme for medical students at the University of Calgary, in addition to its intrinsic interest, will help to explain developments within the College programme after 1995. The programme began informally in 1972 with a half-hour session commencing at 0700 hours for clinical clerks (final year students) serving in hospital. In 1977 the programme became an official elective for first year students. The students prepared the topics, with Dr Cruse as their mentor and advisor, and presented them at twice-weekly one-hour sessions during the eight month university year. By 1980 the programme was attracting from 25 to 40 students annually from a class of 72 and Dr Cruse needed help. Starting in that year he gradually built up a cadre of invited faculty, both medical and non-medical, who served as student praeceptors and, while so doing, developed an interest in, and became knowledgeable about, specific areas of the history of medicine. Also in 1980 he began having the presentations typed, copied and bound for presentation to participating students, an innovation that he was forced to stop for lack of funds between 1987 and 1996, but which has been reintroduced. By 1991 he inaugurated the annual University of Calgary History of Medicine Days, a formal assembly at which students presented their work, were judged, and prizes were awarded. Although other medical schools were invited to participate none did initially. By 1998, however, only half of the papers were presented by students from the University of Calgary while half of the 36 paper, two-day, programme was contributed by students from seven of Canada's other 15 medical schools.

However, even the success of the University of Calgary History of Medicine Days programme did not satisfy Dr Cruse in his quest for a prestigious national forum for medical student participation. In 1992 he sponsored a paper by one of his students at the Royal College History of Medicine programme and, through such sponsorship, student participation gradually increased and, in time, the College recognized that medical student papers

were well researched, well presented and dealt with topics of interest to the Fellows. Each year student participation registered gains; at first student papers were segregated from those by Fellows, but this was soon discontinued, as was the requirement that student papers be sponsored by College Fellows. Between 1995 and 1998 the history of medicine proffered paper programme grew from a single two-hour session to a two-day series of four sessions of four hours each. At the 1998 meeting the symposia, in which the Fellows had shown decreasing interest, were eliminated and replaced by a single invited speaker on each of the two days of the meeting whose 45 minute presentations were integrated into the overail programme. The speakers on that occasion were Dr R.A. Macbeth who spoke on «William Fulton Gillespie : Western Canadian Surgery in Transition" and Dr C.G. Roland who spoke on «Practicing Medicine in a time warp : Far Eastern POW Camps, 1941-1945».

In addition to the two invited speakers, at the annual meeting of the Royal College on September 24 and 25,1998,40 proffered papers were selected for the programme from the 50 submitted, following anonymous peer review, 38 of which were presented by students representing nine of 16 Canadian medical schools. The four sessions were entitled : Women, Anaesthesia and Canadian Medicine; Early Medicine; War Medicine, Evils and Benefits; and Ethics, Faith and Art. The history of medicine programme was among the best attended of the specialty assemblies and the papers were among the most extensively discussed and enthusiastically received, doubtless contributed to by the presence of 38 eager medical students. It is now 22 years since the College introduced the history of medicine into its annual scientific meeting. Its growth and acceptance has been quite remarkable and suggests that the history of medicine is alive and well among clinicians and medical students in Canada.

R.A. Macbeth

Croatia

There are some countries (or, better said, some regimes) desperately seeking for a new history, which would "prove something" to the world and to their own nations (mostly the correctness of the politics of the current regime). However, history, unlike the past itself, is not a mere collection of facts, but their precise interpretation, and, therefore, has its birth manipulated. To work with medical history is also a kind of manipulation : it is necessary to extract what we can use, the material we can learn from, and to submit it to modern analyses.

The most terrible mistake a teacher can commit is to bore students too often : as we hear at the conferences, this occurs with medical history. Croatia is one of those countries which are known in the West as «small», «new» or «wild» (Not always unjustly, but it is to be questioned why the only East-European writers known to the West, are those who left the East as emigrants. This cannot be explained by a «language barrier»). Anyhow,in Croatia, the medical history life can be described as quite vivid.

With a society already in Zagreb, about a month ago, another Croatian Scientific Society for the History of Medicine was founded in Rijeka (President: Ante Skrobonja). With very meagre funding the society has quite ambitious plans : lectures, round tables, study trips.

What is more important, new ideas have found their way into medical history courses with the introduction of alternative medicine by Biserka Belicza and palaeoanthropology by Stella Fatovic- Ferencic, both at the Faculty of Medicine and Croatian Academy of Sciences and Arts in Zagreb; Ante Skrobonja is experimenting with «native-soil» medicine at the Faculty of Medicine in Rijeka.

Amir Muzur

France

La Société française d'histoire de la médecine a attribué pour 1999 deux prix pour des livres publiés ou traduits en français, deux prix de thèse et quatre mentions spéciales.

Le prix pour le meilleur livre français dans cette discipline : à Frédéric Obringer : *L'aconitet l'orpiment. Drogues et poisons en Chine ancienne et médiévale,* Paris, Fayard, 1997. Ce livre excellent est le résultat de la double compétence de l'auteur, sinologue et pharmacien. Il offre une anthologie de textes traduits du chinois, inaccessibles jusqu'à maintenant aux lecteurs occidentaux, et prend en compte des découvertes archéologiques récentes.

Le prix pour le meilleur ouvrage étranger traduit en français : à Jan Goldstein : *Consoler et classifier,* Paris, Synthélabo, 1997. L'édition américaine de ce livre a été unanimement appréciée; fondé sur une excellente connaissance des sources, aussi bien parisiennes que provinciales, avec l'exemple de l'Ille-et-Vilaine, il donne une synthèse de la psychiatrie française du XIXe siècle, vue par un auteur étranger.

Les deux prix de thèse : à Ludovic Debono, *L'Histoire de la médecine en Russie de 1801 à 1917,* thèse de médecine, Besançon, 1997, présentation critique des débuts de la santé publique en Russie avant la Révolution, fondée sur une connaissance directe des sources, et selon un plan judicieux; et à Christine Bonnet-Cadilhac, *L'anatomo-physiologie de la génération chez Galien,* thèse de lettres, Paris, 1997, travail remarquable aussi bien par sa méthodologie que par les résultats obtenus. L'auteur combine la connaissance du grec ancien et de l'anatomie comparée. Cette thèse marque un véritable progrès dans l'interprétation et l'appréciation de l'oeuvre de Galien.

Les mentions à Andrée Yanacopoulo pour le meilleur ouvrage d'un pays francophone, *Découverte de la sclérose en plaque,* Montréal, presses de l'Université, 1998. Bien faite et agréable à lire, c'est là une contribution originale à la connaissance des conditions concrètes d'une réalisation de Charcot, fondée sur les sources de première main conservées à la Salpêtrière, avec une bonne interprétation de la signification de l'oeuvre de ce médecin; à Marie-Hélène Desjardins pour le meilleur catalogue d'une exposition d'intérêt médico-historique, *Les biberons du Docteur Dufour,* Musées de Fécamp, 1997, pour la haute qualité de l'iconographie et l'intérêt de l'ouvrage pour l'histoire de l'alimentation des nourrissons; à Guy Thuillier pour sa contribution originale à l'histoire des hôpitaux de Paris, *Aux origines des maisons de retraite : Sainte-Périne de Chaillot,* Paris, Sécurité Sociale, 1997, excellent recueil de sources inédites, bien situées et interprétées; et, à titre posthume, à Carlos Gysel, décédé le 11 septembre 1997, pour sa magistrale *Histoire de l'orthodontie,* Gand, 1997.

Danielle Gourevitch

Latvia

The Paul Stradin Museum of the History of Medicine instituted the Paul Stradin Prize in 1983. It is awarded for outstanding achievements in the history of medicine and pharmacy as well as in the science of museums. Since 1991, Academy of Latvia's Sciences and the Paul Stradin Museum of the History of Medicine have awarded the prize, a bronze relief, which was created by famous Latvian artist Janis Strupulis. Up to 1999, the prize has been awarded to 28 persons. The names of the prizewinners and their short biographies have been published. Among the previous winners one should mention not only Latvian scientists and doctors but also well known specialists from abroad: Prof. H. Muller-Dietz (Free University Berlin), Prof. C. Zarins (Stanford University, U.S.A.). In 1999 the Paul Stradin Prize will be awarded to Prof. O. Larsen (Oslo University, Norway) forthe promo-

tion of international connections between the Paul Stradin Museum and medical historians worldwide. Likewise, a prize will be awarded to Z. Cherfass for his work in the history of Latvian medicine and deontology, as well as for his educational work for several generations of doctors.

Oivind Larsen was elected on January 17, 1999 to the Presidium of the Association of Baltic Historians and Philosophers as coordinator for medicine from North Europe. An official declaration of the prizewinners will be announced during the 36th Stradin Readings, on January 22, 1999 at the Paul Stradin Museum of the History of Medicine.

Juris Salaks

Lithuania

On the 15-17th January, 1999 in Vilnius and Kaunas there took place the XIXth Conference of the Baltic States Historians of Science. This traditional event is organized every 2-3 years in Lithuania, Latvia and Estonia alternately. The first Conference took place in Riga, the capital of Latvia in 1958. The Lithuanian Academy of Sciences, the Baltic and the Lithuanian Associations of the History of Philosophy of Science, Vilnius University and Kaunas Medical University were the main organizers of this Conference. It was hosted by the Lithuanian Fund of Science and Studies and International Union of the History and Philosophy of Science/Division of the History of Science. The main topics of the Conference were :

1. Science meeting the 3rd millennium : historical experience and perspectives in the face of a global information technology era.
2. The role of the history of science and technology in human education and intellectual activity.

The scientific panorama of the Baltic States and its international connections were reviewed in the Plenary session in different reports : "Baltic Science Meeting Information Society : historical experience and future perspectives" (J.A. Krikstopaitis, Lithuania) : "Science and National statehood of Latvia in the 20th century" (J. Stradins, Latvia), «Socio-political breaks and Estonian science" (K. Siilivask, Estonia), "Towards a history of the European scientific community" (R. Halleux, Belgium).

The Museum Palace in the Town Hall square had invited reporters and guests from Lithuania, Latvia, Estonia, Poland, Belarus, Ukraine, Russia, Israel and United States. Dr. V. Siudikas, the President of the Lithuanian Association of the History of Medicine, allowed 30 representatives the opportunity to report. The Conference Abstracts gave extended summaries of 52 reports. The History of Medicine section was organized by the Center for Medical History and Information of Vilnius University and the Museum of Medicine and Pharmacy of Lithuania of Kaunas Medical University.

The 20th Baltic States conference on the history of science will take place in Estonia in 2001.

Aurimas Andriusis

Erratum - Vesalius IV, 2

Jean-Pierre Tricot, ancien secrétaire-général de la SIHM, a omis de mentionner le Dr J. Honti (Hongrie) parmi les délégués nationaux présents lors du Conseil d'Administration du 05.09.08 à Tunis . Il s'en excuse.

Jean-Pierre Tricot, former secretary-general of the ISHM, omitted to mention Dr J. Honti (Hungary)among the national delegates present atthe administrative council of 05.09.98 in Tunis. He apologizes for it.

Scientific Events

May 8-August 15,1999
Exhibition : "A State of Health: New Jersey's Medical Heritage"
Alexander Library, Rutgers University,
New Brunswick, New Jersey, USA

In conjunction with the annual meetings of the American Association for the History of Medicine, the Medical History Society of New Jersey, and the Archivists and Librarians in the History of the Health Sciences.
Through 150+ rarely-seen artifacts, documents, books, and images spanning more than three centuries, the exhibition focuses on: epidemics, children's health, hospitals and healers, and biomedical and pharmaceutical innovations pioneered in New Jersey.
Information:
Karen Reeds, Ph.D, General Curator
127Southgate Road
New Providence NJ 07974 USA
Tel : 908-464-0714, Fax :908-464-6814
email: reeds@openix.com

July 24-31, 1999
Congress : "The Past and Present of Leprosy"
Calvin Wells Laboratory, Department of Archaeological Sciences, University of Bradford, England

The Third International Congress on the Evolution and Palaeoepidemiology of Infectious Diseases (ICEPID 3), under the presidency of Prof. I. Coppens, is being co-organised by Dr C. Roberts (Bradford, UK), Dr G. Palfi (Szeged, Hungary) and DrO.Dutour(Marseilles, France). The Congress will run over four days (27th-30th) with an optional excursion on the 31st.
Sessions will include :
- Microbiology and evolution of mycobacteria
- Biology and epidemiology of leprosy
- Diagnosis of leprosy in past and present populations
- Paleopathology and palaeoepidemiology of leprosy
- Interactions between leprosy and tuberculosis
- Social aspects of leprosy past and present
- The medical history of leprosy

Poster and practical sessions are also planned.
Information:
Dr Charlotte Roberts
Department of Archaeological Sciences
University of Bradfort
Bradford BD7 1DP, UK
Tel : +44-1274-233538, Fax :+44-1274-235190
email: C.A.Roberts@Bradford.ac.uk

September8-11,1999
Biennial congress of the British Society for the History of Medicine
BodingtonHall, Universtity of Leeds, Great Britain

In association with the Yorkshire Medical and Dental History Society and the Thackray Museum.
Information :
Susan Lacey
Conference and Marketing Office
The University of Leeds, Leeds LS2 9JT, UK
Tel : +01132336106 Fax : +01132336107
E-mail : s.lacey@leeds.ac.uk

September 14-18, 1999
International Symposium: Ethnobotany, Folk Tradition, History and Pharmacology
San Jose (Costa Rica)

Organised by "Geodata Center, Costa Rica, and "Science & Lettres", Belgium, under the auspices of "Unviersidad para la Paz", Costa Rica.
The main topics will be : folk traditions (past and present), history of medicinal plants from antiquity to present times, scientific knowledge, integration of the folk tradition into medicine, ethnobotany and pharmacology, with a special emphasis on temperate and neo-tropical floras. Comparative, transperiod and interdisciplinary studies are welcome, as well as works and projects dealing with the use of multimedia means in the field.
Information :
Simposio Plantas Medicinales
P.O. Box 6131,1000 San Jose
Costa Rica
email: simposio® nexos.co.cr

6-9octobre 1999
Xe Colloque International Hippocratique "Le normal et le pathologique dans le corpus hippocratique".
Universite de Nice, Faculte de Lettres, Boulevard E. Herriot 98, 06204 Nice, France
Informations :
Pr. Antoine Thivel
Les Mimosas
26 avenue de Flirey
06000 Nice, France
Tel. : # 33-4-93 53 05 47

November 5-7,1999
1st International Conference "Osteoarchaeology of the Napoleonic Battlefields"
Camerino / Tolentino, italy

The aim of the conference is to bring together anthropologists, palaeopathologists, forensic scientists, archaeologists and historians interested in addressing, through an interdisciplinary approach offered by the most recent investigation methods, the exciting field of the scientific exploration of the Napoleonic Battlefields.
Information:
Tel: +39-0737-403219, Fax :+39-0737-636216
email: rollo@cambio.unicam.it

February 18th to 20th, 2000
"100 years of organized cancer research"
German Cancer Research Center and the Institute for the History of Medicine.
Heidelberg

About 99 years ago under the influence of Ernst von Leyden the German «Comite fuer Krebsforschung» was established (18 February 1900) in Berlin. This date may well be looked upon as an important starting point for organized cancer research not only in Germany. For this reason the German Cancer Research Center (DKFZ) and the Institute for the History of Medicine, Ruprecht-Karls-University (Heidelberg, are planning an international symposium on «100 Years of Organized Cancer Research" to take place in Heidelberg from February 18th to 20th, 2000.
The Symposium will be held in English, French and German.
To mark the anniversary and to exchange historical research we want to look back on a hundred years of medical thinking about, research on, and treatment of cancer. Although the main focus of the conference is directed toward diagnostical, therapeutical (surgery, radio-, chemo-, and immuno-therapy), pathogenetical, and epidemiological aspects of cancer research (including prevention), there will also be a section on political, social, and cultural implications (as cancer in art and literature).
If you would like to contribute, to which you are cordially invited, please submit title and abstract (200 words max.) of your paper to:
Ruprecht-Karls- Universitaet
Institut fuer Geschichte der Medizin
Prof. Dr. Wolfgang U. Eckart
Im Neuenheimer Feld 368
D-69120 Heidelberg,
GERMANY
e-mail :wolfgang.eckart®urz.uni-heidelberg.de

10-15 September 2000
37th International Congress on the History of Medicine
Galveston,Texas, U.S.A.

UTMB's Institute for the Medical Humanities will host this meeting, the first ISHM Congress ever held in the United States.
English, French, and Spanish will be the official languages of the Congress. Simultaneous translations will be available in some sessions.
The themes for papers are :
- Development of Clinical Specialties in 20th Century Medicine.
- Changing patterns of Health Care: Relationships between the United States of America and other Countries;
- Images of Healers and Healing in Art and Popular Literature;
- Teaching Medical History, Past, Present, Future
- Varia

The new Moody Gardens Hotel will be the headquarters hotel for the Congress.

Social events : Participants and their guests will have opportunities to visit museums and historic homes in Galveston as well as facilities at the University of Texas Medical Branch.
During one evening, Galvestonians will provide dinner for participants during a Home Hospitality program.
Musical entertainment will be provided at various times during the Congress.
Some optional tours will be described in the Second Announcement.
Information :

Congress Officials :
Dr C.R. Burns, Chair, Congress Committee
Institute for the Medical Humanities
The University of Texas Medical Branch
Galveston, Texas, U.S.A. 77555-1311
Tel : + 409-772-9389 Fax : + 409-772-5640
E-mail:cburns@ utmb.edu

CongressWeb Site: http://library.utmb.edu/ishm

July 8-14, 2001
XXIst Intern. Congress of History of Science
Mexico City
International Union of History and Philosophy of Science, Division of History of Science
Theme : Science and Cultural Diversity
Programme: Plenary Lectures on themes of general interest - Symposia on the theme of the congress without excluding other topics - Traditional sections and business meeting - Poster sessions.
Language for correspondence : Spanish, English and French.
Language for lectures : English, French, German, Spanish and Russian.
Deadline for acceptance of abstracts: March 2001.
Information :

Prof. Juan Jose Saldaha
Apartado postal 21-873
04000 Mexico, D.F.
Mexico
web site : www.cilea.it/history/DHS

Information

RSM Press wishes to make the following special offer to all members of the International Society for the History of Medicine.

Members of the International Society for the History of Medicine who wish to subscribe to the *Journal of Medical Biography* can save £10/US$18 - which is equivalent to a 22% discount. The reduced subscription price for members of the International Society for the History of Medicine in 1999 is only £35/$65. This entitles the subscriber to four issues of the journal in 1999 and represents excellent value for money. It is also this specially reduced price for retrospective orders placed for the 1998 volume.

All orders must be paid for by personal cheque or credit card. This academic journal publishes a wide variety of papers on individuals in or associated with medicine and on their significance in various contexts. It is an essential subscription for those who wish to find out more about many of the key personalities involved in the history of medicine.A full airmail service costs an additional £14/US$25.

Contact details for subscribers are: Subscriptions Department, RSM Press Ltd, PO Box 9002, London W1A 0ZA, UK. Telephone +44 171 290 2927/8 or fax +44 171 290 2929. Email zoe.tyrrell@ roysocmed.ac.uk

National Library of Medicine Publication Grants

The National Library of Medicine (NLM) awards small grants, for up to three years, to provide short-term assistance for the preparation of book-length manuscripts and, in some cases, the publication of important scientific information needed by U.S. health professionals. The program is authorized by the Medical Library Assistance Act and its extensions, and is administered by the Extramural Programs of NLM. Work judged to have significant commercial viability will not be supported. Grants are awarded for major critical reviews and analyses of current developments in important areas of the health sciences, historical studies, works about health sciences informatics, librarianship, and certain kinds of secondary information and literature tools in the health sciences. Publication may be in formats other than print-on-paper (e.g., electronic, film, etc.), and may involve new and innovative ways of organizing and presenting information.

Types of project suported includes :

- Scholarly works in the history of medicine and the life sciences, the history of the development of medical research and health services, and historical studies on the interrelationship of medicine and society.

- Publications about health sciences informatics, health sciences librarianship, biomedical communications, and health information science.

English-language translations of important current, foreign biomedical monographs, and foreign-language classics in the history of medicine.

Support for the editing and preparation for publication of scientifically significant and important symposia or conferences related to U.S. priority health care needs.

Eligibility: Grants may be made to public or private, non-profit institutions on behalf of a Principal Investigator, or to unaffiliated individuals, to support salaries, consultant fees, equipment and supplies, travel, and other justified costs.

Procedures

Applicants must use the PHS Form 398 (rev. 5/95) grant application kit which includes forms, instructions, and additional information. The kit is available at sponsored programs offices in academic medical centers, from the NLM (see address at end of fact sheet), online, or from:

Extramural Outreach/Information Resources
National Institutes of Health
6701 Rockledge Drive, MSC 7910
Bethesda, MD 20892-7910
telephone 301/435-0714
FAX 301/480-0525
email: grantsinfo@nih.gov

Application deadlines: February 1, June 1, and October 1.

Assistance and information

Potential applicants are strongly encouraged to discuss projects early with Program staff who will discuss program status and experience, provide additional information in response to specific application plans, and review draft proposals for completeness if desired.

Contact:
Publication Grant Program
Division of Extramural Programs
National Library of Medicine
Rockledge One Building, Suite 301
6705 Rockledge Drive
Bethesda, MD 20892
Phone: (301)594-4882
Fax: (301)402-2952
Email: sparks@nlm.nih.gov

Application for membership
Formulaire de candidature

Titres : Mr. Mme. Dr. Prof.
Style and titles : Mr. Mrs. Dr. Prof.
Nom/Surname : .....
Prénoms/Forenames : .....
Adresse/Address :.....

Tél./Phone:. . . . . .+......./.
Fax :. . . . . .+...../.
E-mail :. . . . . .
Nationalité/Nationality : .....
Date de naissance / Birth date :
Points d'intérêt historique :
Historical Field of Interest :

Epoques étudiées :
Period studied :

Recherche actuelle :
Current research :

Travaux publiés dans ce secteur :
Published work in this field :

Signature : Date :

Application form to be sent in duplicate to the General Secretary :
Formulaire à renvoyer en double exemplaire au Secrétaire Général :
Dr Alain LELLOUCH, Hôpital de Poissy, Saint-Germain-en-Laye
20 Rue Armagis, 78105 Saint-Germain-en-Laye, France
Tel. : # 33-1-39 2742 97/Fax ; # 33-1-39 27 42 98/e-mail : Alain.Lellouch@wanadoo.fr

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