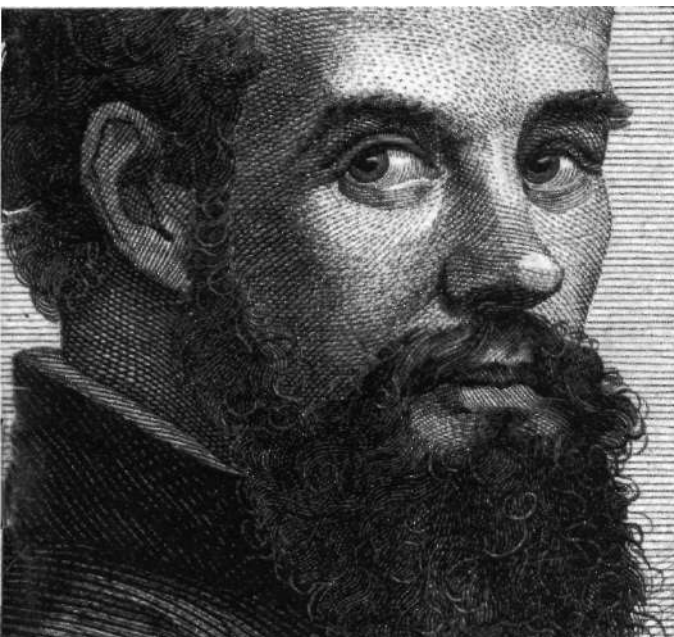




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# Vesalius



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## **Editorial**

Comme le rappelle Fernando Vescia dans son *symposium report*, le dernier Congrès International d'Histoire de la Médecine (Tunis, 6-11 septembre 1998) a été couronné de succès. Le programme scientifique traitait préférentiellement de Médecine arabo-islamique, Chirurgie arabo-islamique, Histoire de la santé publique, Histoire de l'enseignement, Médecine Gréco-Latine, ...).

La participation internationale de haut niveau et la présidence du professeur Sleim Ammar ont tenu leurs promesses. Toujours disponible, enthousiaste et d'excellente humeur, Sleim nous a accueillis avec la chaleur qu'on attend de l'hospitalité tunisienne. Et Tunis, chargée d'histoire, de vestiges (surtout Carthage) et de musées (dont le célèbre Bardo) procurait un environnement qui sublimait les dimensions du Congrès. L'expérience de discuter de sites archéologiques avec ceux qui, une heure plus tôt, étaient assis sagement à côté de vous à écouter des communications scientifiques crée une fraternité et des liens d'amitié qui se concrétisent rapidement par de nouvelles collaborations et des avancées.

On doit cela au Professeur Ammar que le comité éditorial de Vesalius tient une nouvelle fois à féliciter et à remercier.

As Fernando Vescia reports elsewhere in the journal, the recent International Congress on the History of Medicine held at Tunis between 6th and 11th September was crowned with success. The scientific programme dealt with the main themes of Arab-Islamic medicine and surgery; the history of public health; history and medical education; and Graeco-Roman medicine.

The high level of the international participation under the presidency of Professor Sleim Ammar fulfilled its promise. Always available, full of enthusiasm and humour, Sleim welcomed us with the warmth that accompanies Tunisian hospitality. And Tunis itself, full of history, the opportunity to view the ancient ruins (particularly of Carthage) and the museums (including the memorable Bardo) ensured a magical environment for the scene of the Congress. The opportunity to discuss these archaeological sites, with those who but an hour before had been quietly listening with you to the scientific papers on them, made for fraternity and bonds of friendship with promise of collaboration to come, with yet further progress.

We feel it is our pleasant duty, on behalf of the editorial committee of Vesalius, to take this opportunity to congratulate and thank Professor Ammar and his team.

*John Cule & Thierry Appelboom*  
*Editors, Editeurs*

## **Occupational Medicine in Idria Mercury Mine in 18th century**

Z.Z.Slavec

### **Summary**

*Of all medical sciences in Slovenia, occupational medicine has the longest tradition. It is not a mere coincidence that it had developed already at the beginning of 18th century in Idria. The Mercury mine in Idria, is the second largest European mine of its kind, next to the Spanish Almaden, and has been owned by the Habsburg dynasty for four centuries. To attain higher production, the miners in Idria received medical and social care much earlier than anywhere else; chronic intoxication caused by mercury fumes greatly hindered their working ability. The first and, at the same time, one of the most prominent doctors in Idria, J. A. Scopoli (1723-1788) perfectly described the symptoms of chronic intoxication with mercury in his work *De Hydrargyro Idriensi Tentamina Physico-Chymico-Medica* (Venice, 1761) and thus ranked himself among the early medical writers of occupational medicine, medical hygiene and toxicology. His predecessors were Ellenbog, Paracelsus, Mattioli and some others.*

*The article describes the situation in the mine of Idria in the 17th and 18th century and focusses on Scopoli's mineralogical and medical discussion on mercury miners and mercurialism.*

### **Résumé**

*La médecine du travail possède une longue tradition en Slovénie. Ce n'est pas une pure coïncidence si elle existe depuis le 18<sup>e</sup> siècle en Idrie. La mine de mercure est une des plus importantes en Europe, après celle d'Almaden en Espagne; elle appartenait aux Habsbourg pendant 4 siècles. Pour arriver à une forte production, les mineurs étaient particulièrement bien choyés, notamment lorsque les vapeurs de mercure entraînaient des intoxications au plomb. Celles-ci ont été décrites par un célèbre médecin, le Dr J.A. Scopoli (1723-1788) dans son livre *De Hydrargo Idriensi Tentamina Physico-Chymico-Medica*, publié à Venise en 1761. Ses prédécesseurs sont notamment Ellenbog, Paracelse, Mattioli et d'autres.*

*Ce travail rapporte les conditions de travail des mineurs et insiste plus spécifiquement sur la contribution de Scopoli à l'intoxication aux métaux.*

### **Introduction**

We spend most of our lives working; work gives us personal satisfaction, psycho-physical balance and social identity, as well as contributing to a sustainable development of our society.

However, it might also have negative effects on health and human relations. Too much hard work, not enough breaks, unsuitable qualifications, the poor physical condition of individual workers, inappropriate or even hazardous working conditions and exposure to noxious chemical substances all provoke illnesses. In medical literature we find information on illnesses caused by specific work. These records date from the old Egyptian period. The ancient Greco-Roman culture with its slavery system was

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unfavorable to the development of occupational medicine. During the medieval feudal period there developed a type of medicine related to certain trades and some working standards were set. Later industrialization brought new demands for work efficiency, as well as for working conditions. This period represents the beginning of today's occupational medicine (5, 15).

### Idria

During 15th century the Idria region became a part of the province «terre ferma», a direct hinterland of Venice. In 1508 czar Maximilian I conquered this land for the first time. After long lasting battles with Venice (1508-1517) this region, rich in cinnabar (HgS), was annexed to the hereditary provinces of the Habsbourg dynasty; at first to the county of Gorizia and later to the duchy of Carniola (16). The beginning of mercury mining goes back to the Venetian period in the year 1493. At that time miners were independent, among them we find also noblemen and citizens from Habsburgian provinces, from duchies of Carinthia and Carniola. In 1745 the empress Mary Theresa founded the independent royal office for coinage and mining (*Camera Aulica in monetariis et montanisticis*), where the records of the Idria mercury mine are still preserved (there are 73 fascicles with data on mine personnel, salaries, office management, regular and premature retirements, grants, compensation money... covering the period from 1765 to 1804) (6). These records contain much valuable information on the general health condition of miners of that time. The Idria mine remained under Austrian government to the end of World War I (1918), with the exception of a short period from 1809 to 1813, when Napoleon proclaimed this region as a part of the Illyrian provinces.

### The Idria Mine

The mercury mine in Idria is the second oldest and the second largest of its kind in

Europe, while the mercury mine in Almaden (Spain), which is still in operation, is the oldest in the world; it had already been exploited by the Ancient Greeks and Romans. In 17th and 18th century the Almaden mine suffered much damage because of many fires. When production was temporarily stopped, the mercury mine in Idria increased its production three to five times and fully covered the loss of the supply of Spanish mercury. In the Idria mine we find mercury of two different types: mercury ore, the so called cinnabar and native mercury. While the cinnabar has to be melted in order to obtain the mercury, the native mercury is already liquid. An Englishman Edward Brown who, in 1672 during his journey across Europe, visited Idria, described the native mercury he had seen (2). The cinnabar in the Idria mines was very rich in mercury, containing 50-70%. At the same time a great deal of native mercury was available, which also ran into the nearby brook Nikove and was by chance discovered by a peasant in 1490. Until the middle of 17th century the cinnabar was melted in clay pots. Later on furnaces were introduced and the new method gave much better results.

For the 34 years between 1539 and 1573, 1.900.000 kg of mercury was sold (18). Mercury was a typical export. At first it was sent to the commercial seaport of Venice and later on to Trieste from where it was transported to the south of Germany, Holland, Spain and further on to South America where it was used to amalgamate silver and gold. Surface transport was also used through Upper Carniola to Villach or across Leubpass to Klagenfurt. Until the second part of 19th century Idria had no road connections, so the mercury was carried along narrow rocky paths by horses.

Let me describe the work in the mine to get a better idea of miners' lives, as well as their problems. Upper ore deposits were soon worked out; miners had to dig deeper and deeper. The first vertical pit, called Ahacij's pit, opened in

1536, was 68,5m deep. It was closed in 1746. By that time it had reached the depth of 133m. Another vertical pit, Barbara's pit, which reached an approximate depth of 200m was the deepest pit of its kind. In spite of a permanent fresh air supply, the lowest parts of the pits remained badly ventilated. There were toxic and inflammable gases. Therefore it was not permitted to use lanterns in order to avoid fires. In 1550, 30 miners died because of methane explosions. There was also a constant threat of water breaking in. Working conditions in the Idria mine were so bad that the miners were able to work only 8 hours per day, when, at that time a normal working day was 10 hours. The miners descended the pits by ropes and to get out they used free-hanging rope-ladders. When they were too weak to climb, or if they suffered from chronic mercurialism, they were lifted by special baskets. They also had to extract the ore and remove water, as well as, sinking the wooden beams to support the shafts. They used a lifting *lack-Haspel* in German-which has been mentioned by Georg Bauer in his book *De re metallica libri duodecim* (7, p8). In pits deeper than 40m they had to use a special device, called a *gepelj*, which was driven by horses. The most difficult task was to pump water out of the pit. Only young and healthy men were able to do it. The ore layers needed to be properly dried up before the miners could start digging.

### Toxicity of Mercury

Mercury has been known as a toxic substance since ancient times. Plinius and Dioscorides described an acute poisoning caused by mercury. The medieval Arab doctors were familiar with similar cases. Whilst mercury was used to treat syphilis acute poisoning became ever more frequent. However, until the 16th century we lack data on chronic diseases caused by mercury. When Paracelsus visited Idria (around 1527) he was shocked. In his essay *Von der französischen Krankheit*, published in 1529, he stated the case of Idria

where people were paralyzed, deformed, asthmatic, trembling and with no prospect of becoming healthy again. He described it in these words: «*secht ein exempel in Nidria, alle die umb da wonendt, seindt krumb und lam, leichtlich erstickt, leichtlich erfrorn, nimermehr keinen rechten gesundheit wartend*». (7, p 8). This statement is one of the oldest descriptions of chronic mercurialism and is one of the oldest documents on Idria. Paracelsus wrote it under the strong, unfavorable impression that the sick and injured inhabitants of Idria had made on him.

### Paracelsus and others

In his work on miners' diseases *Von der Bergsucht und andern Berkrankheiten* (1533) Paracelsus gave a more detailed description of mercurialism. In the third chapter, on diseases caused only by mercury, he described the symptoms of chronic poisoning with mercury such as tremor, teeth loss, diseases of digestive organs, skin and kidney... (1). He suggested the use of some primitive prophylactic respirator to protect miners from inhaling toxic mercury vapors. Paracelsus thought that mercury was deposited in joint cavities, mostly in the legs. He suggested treatment of the affected joints with strong caustic substances in order to make holes so that mercury could drip out. With this work Paracelsus paved the way for a new branch of medicine as occupational medicine or industrial hygiene and medical toxicology.

Among the pioneers of occupational medicine are also the German doctor Ulrich Ellenbog (1440-1499) with his essay *Von den giftigen besen Tempffen und Reuchen*, which was written in 1473 and printed in 1524; and Georg Bauer (Agricola, 1490-1555) with his early work on miners diseases *De re metallica libri duodecim* (Basel, 1561). Pier Andrea Mattioli (1500-1577), a well known botanist from Siena, worked as a doctor in Gorizia close to Idria, visited the Idria mine and wrote about it. He also realized the

side effects of mercury vapors and wrote that even the strongest and the most healthy miners could not stay at the mine longer than four years, because of the onset of trembling (3).

In the first Topography of Carniola, *Die Ehre des Herzogthums Crain* Johann Weichard Valvasor (Laybach, 1689) described Idria:

« *Das Bergwerk Ydria... ist vor vielen anderen in grossem und wohlverdientem Ruhm und eine rechte Schatz-Grube oder fruchtbare Mutter des Quecksilbers. Ligt... Zwischen hohem Gebirge in einem Graben drey starker Meilwegs von Ober-Laybach gleich anden Crainerischen wohlgemauerten wohn-Hausem.* » (17), (7, p 6).

Idria had in 18th century about 300 houses, there were some 3000 inhabitants and from 365 to 900 miners. Valvasor described also the sick miners, their trembling and invalidity. They even had certificates, issued by the government, stating that they were not capable of working, so they were allowed to beg and ask for charity.

The German Hoffman wrote an interesting essay on diseases of miners and workers in smelting houses; it was published in Halle in 1705. Similar monographs were published in 18th century by Michael Alberti (Halle, 1721), and Johan Friedrich Henkel (Dresden, 1745), but the fundamental work on occupational medicine *De morbis arificum diatriba*, written by Bernardino Ramazzini (1633-1714) was printed in 1700 in Modena. It is a systematical tractate on the whole of occupational medicine.

In 1719, the French doctor and botanist Bernard de Jussieu described bad working conditions in the Spanish mercury mine at Almaden (4, 13). The case in Idria was not any better. However, in the period of enlightenment some efforts were made to solve certain social and medical problems. In 1736 Anton Hauptmann was sent to Idria to make some technological and organizational changes to modernize the mine. The same year the surgeon Philipp

Eckhardt who had already treated miners in Idria received an additional state salary to keep an accurate record of his patients, to give free treatment as well as free medicaments to miners and to find himself an assistant (10). Besides this, for the first time in history the sick miners were entitled to receive money for food («*Krankengeld*» -75% of their salary) from the state treasury; Thus the state entered into an engagement of a fraternity fund (sick fund).

Later on the miners' surgeon was given another difficult task. He had to decide who was sick and for how long the sick person was entitled to receive money for food. The surgeon could no longer cope with all these responsibilities, and therefore in 1740 a special commission of the Austrian government sent to Idria a trained surgeon, Joseph Gutt (also Gueth, Guth). His main task was to prevent and to treat occupational diseases caused by intoxication with mercury and to intervene in accidents that happened in the mine. After many requests the then director of Idria mine, Anton Hauptman, in 1754 succeeded to get the first doctor to Idria.

### Jovanni Antonio Scopoli

In 1754 Idria appointed its first doctor, Jovanni Antonio Scopoli (1723-1788) (19). From that time on not only miners but also their families were entitled to free medical care. Scopoli stayed in Idria for 15 years. During that period he set up his well known entomological and botanical works (the botanical species *Scopolia* and the alkaloid scopolamine are named after him) (9) and wrote a mineralogical and medical essay on mercury miners and mercurialism *De Hydrargyro Idriensi, Tentamina Physico-Chymico-Medica* (Venice, 1761) (14). He thought that in the existing working conditions miners should not work more than 6 hours per day.

Scopoli listed the most frequent symptoms he noticed among Idria miners: tremor, salivation, cough, breathing problems, diarrhoea, in-



- Joannes Antonio Scopoli (1723 - 1788)

developed in 1606 by Alfonso Bustamente from Almaden, offered a much better protection to workers as the mercury fumes circulated in a closed system. However, the pipes cracked quite often, in which case the intoxication was even more acute! Scopoli described the symptoms of such an acute intoxication: sweet taste, salivation, teeth loss, sores in the mouth, headaches and pains in the legs at night time, tremor and strong psychic restlessness.

Another well known doctor from 18th century was Baltazar Hacquet (1739-1815) (11, 8). He managed to introduce the practice allowing miners to take a bath after work. His idea to serve milk to miners after work was never realized; it was too expensive. Both Scopoli and Hacquet had many problems with the authorities as they claimed that the administrators of the Idria mine did not care enough for the miners, and that on the contrary, they cruelly exploited them (4, p 140-141).

Detailed review of Scopoli's work *De Hydrargyro Idhensi, Tentamina Physico-Chymico-Medica*.

In this article major attention is given below to Scopoli's work, *De Hydrargyro Idriensi*, in which chronic mercurialism, its signs and symptoms, preventive and curative measures are perfectly described.

In his work *Tentamina*, Scopoli describes different illnesses of the Idria miners. He believes that all heavy metals are toxic, mercury in particular. In the introduction he points out the fact that, miners should not work more than six hours per day and that, they should be paid enough to make their living so that they would not have to work after hours. Two hundred and fifty years ago Scopoli had already envisaged 'sick leave' as we know it today, requiring absence from work and financial support until the slightest symptoms of hydrargyrosis had disappeared. The following symptoms were to

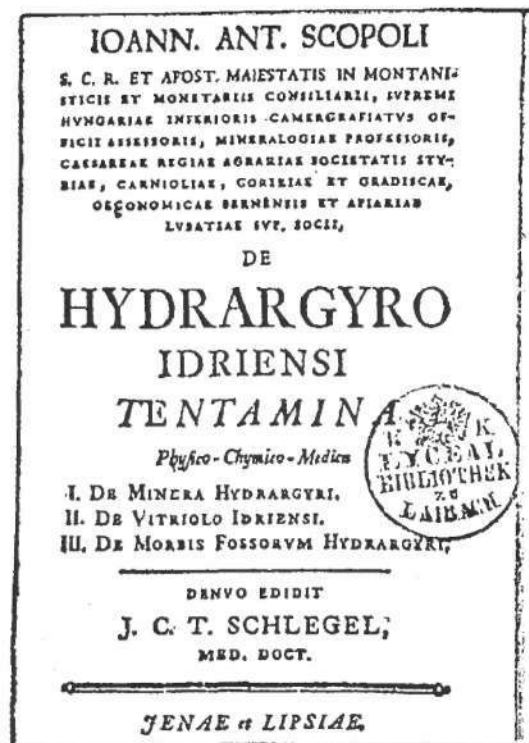
intermittent fever and parasites. Based on his personal experiences, he perfectly described some clinical examples of occupational poisoning with mercury and confirmed Jussieu's observations that alcohol could greatly intensify the risk of intoxication with mercury. He asserted that alcoholism is also an occupational risk for Idria miners, resulting from bad social conditions.

Under the name of Miner's Asthma, Scopoli described a pneumoconiosis, with features suggestive of tuberculosis, including its etiology and autopsy findings. As a protection against mercury dust, he suggested humidifying the air and the use of wet linen cloths in front of the mouth and nose.

Intoxication was much more frequent amongst the miners who were working in front of furnaces. In 1750 the Spanish melting procedure was introduced to Idria. The Aludel furnace.



*Title page of Scopoli's dissertation on mercury from 1771.*



be found among the miners: tremor, salivation, cough, asthma, dysentery, intermittent fever and parasites (14, 12).

## Tremor

He writes that tremor is accompanied by general weakness, fatigue and anemia, all caused by inhaling mercury fumes and dust. The severity of the symptoms depends on the intensity and duration of the exposure to mercury. Although mercury fumes could not be avoided, the miners working in the shafts with better ventilation rarely became sick and suffered tremor much later than those working in either a dusty and stuffy environment or near furnaces. The only treatment he advises is fresh air, meaning absence from work. He thinks that

miners do not need any medicine: yet the empress Maria Theresa had passed an order that the miners be given prescriptions free of charge. Scopoli comments that it will do them no good! As long as they have to work long hours to earn enough to survive, they will descend pits with tremor. The administration should reduce working hours and offer financial support to sick miners.

In addition to fresh air Scopoli advises sweating and hot baths. He gives miners *decocti guajaki*. He stresses the importance of hygiene. After work miners' skin and clothes were covered with dust, full of mercury, which caused a permanent intoxication. Besides, miners used to take food to work and they ate with dirty hands. In serious cases of hydrargyrosis Scopoli advises purgatives (rheum, manna, senna, tamarindus) and less often ipecacuana, as an emetic.

## Salivation

Salivation is accompanied with gingivitis, stomatitis and tooth loss followed by ulcers and facial necrosis. Scopoli considers these symptoms as signs of local intoxication with mercury. He thinks that the organism mostly excretes mercury in places exposed to the outside air. Miners having salivation generally do not get tremor and vice versa. Sick workers in the mercury foundries mainly exhibit salivation (the ore was melted in clay retorts). Scopoli advises rinsing the mouth with a decoction of barley with some honey and warns against drinking alcohol.

The modern explanation of symptoms of acute and chronic intoxication is quite different: chronic intoxication progresses slower in people working in the shafts than in those working at the furnaces; thus stomatitis is observed earlier than neurological symptoms.

Scopoli believes that any organ already affected by some other disease, is more

vulnerable to mercury intoxication. He gives an example of an eye patient who became deaf, but he does not make any specific diagnosis.

### Pneumoconiosis

While crushing ore or cleaning furnaces, miners find themselves in a very dusty environment. Scopoli thinks that dust causes a constant cough which later develops into a consumptive cough. In his time nobody understood the real cause of tuberculosis, however, Scopoli's statements were undeniable, clear and correct. His advice to use a wet cloth in front of the mouth and nose, the same preventive method as already described by Mattioli, and most probably, the miners themselves had already thought of such a simple protection against dust. And what was the treatment? Scopoli prescribes *species perforates*, small doses of opium and eventually venesection (bleeding). He repeats his warning against alcohol. Scopoli believes that work in front of furnaces and excessive alcohol drinking cause asthma. His description of the disease corresponds mainly with the symptoms of tuberculosis. Also in this case he prescribes some decoctions and small doses of opium.

### Enteritis

In regard to diarrhoea, he mentions that the enteritis, as well as enteritis with ulceration, might each result from hydrargyrismus. His description seems rather vague; however, it is obvious that he is not discussing 'the bloody flux'.

He regards different types of enteritis as having a common cause, which was not unusual in the prebacteriological era. It is possible that he treated leptospirosis as enteritis, too. Scopoli states that the cases of enteritis were more frequent in August and September than during the rest of the year, which suggests that the infections were not always caused by mercury.

He disputes with some doctors who think that enteritis is caused by eating over-ripe fruit and even quotes Sydenham's opinion on fruit. He recommends a diet (slimy rice or grits) and prescribes ipecacuana as an emetic and rhubarb as a laxative. Scopoli is also concerned about water loss and advises drinking a beverage made of five parts of water and one part of wine.

### Febris intermittens

Scopoli did not know what caused the disease *febris intermittens*. Naturally, in the middle of the 18th century it was quite impossible to write anything precisely about the causative agent of such symptoms. However, Scopoli gives a detailed description of the disease which enables a retrospective diagnosis with a high level of probability. He writes that the disease occurs seasonally, in the Spring and Autumn; *febris tertianals* prevailing in Spring and *febris quartana* in Autumn. Quite often the disease is followed by dropsy and is always accompanied by outbreaks of *icterus*. During paroxysms the skin is often covered with blisters filled with serous liquid. After intense sweating the blisters disappear. Quinine, most probably the only efficient antipyretic of that time, was rarely effective. The disease had also other accompanying symptoms - *foetor ex ore*, bitter taste, loss of appetite and nausea.

The patients, mostly men, often vomited and had diarrhoea. Most likely the disease was caused by *Leptospira icterohaemorrhagica*. Of course, a positive microbiological test would be necessary to confirm the diagnosis, but based on Scopoli's descriptions we cannot think of any other disease. Although, Scopoli uses the terms such as «*tertiana*» and «*quartana*» we can be certain that the disease in question was not malaria; there are no swamps in the Idria region and quinine did not work. Moreover, in his exact descriptions, Scopoli never mentions a swollen spleen, but he does mention *icterus* and quite often a fatal nephritis. As we now know, in

chronic intoxication with heavy metals, *febris intermittens* occurs only in cases of intoxication with tin (these called «Messingmalaria»). Scopoli treated *febris intermittens* with «*sal medium*» and «*tinctura aromatica*», three hours before the paroxysm, if possible.

He mentions signs and symptoms such as spasms in the stomach, *foetor ex ore*, itchy nostrils, swollen belly, itchy gullet, nausea, vomiting, rejection of food and excretion of worms *per os* or *per rectum*. *Vermes* probably corresponds to askarids (worms), however, it is most unlikely that in this case Scopoli would have thought of *Ankylostoma*. Scopoli carries on his argument with those doctors who think that worms develop from the eggs of insects, mostly flies. He asks the sarcastic question about 'who has ever seen a monkey that developed from a louse egg?' He is not sure whether the earthworm and askaris belong to the same species and whether any modification results from the different environments in which they live. But he thinks that earth and dust are the main sources of infection with worms. He suggests taking salinic purgatives made from mercury alloy; most probably he has in mind calomel, though he does not specify.

He mentions anemia in almost every description of a disease, not only in the case of worms. In each case, the anaemic colour of the skin agrees well with the clinical picture of the disease. Finally, he says that miners from Idria also suffer from other diseases that exist elsewhere and are not specific to miners.

### Scopoli on certain diseases related to miners

Scopoli was convinced that all this suffering could have been avoided. He realized that miners were forced to work for food, even when they were sick, without opportunity to take a bath, poorly dressed and sometimes even barefoot. Miners suffering from chronic mercurialism had

to continue to work in pits full of mercury vapors. The mine administration seemed not concerned, though lower efficiency of sick miners meant lower production. Alcohol made matters worse.

Scopoli realized that it was necessary to take preventive measures, to introduce some social arrangements and to improve working hygiene. At that time his ideas were not accepted. Because of his criticism of the existing social order the mine administration opposed him. The mercury mine in Idria and the medical sophistry related to it have certainly contributed a great deal to the fact that occupational medicine was to become a branch of medicine with the longest tradition among Slovenians.

Almost three centuries have passed since the miners in Idria got their first surgeon: and nearly two centuries and a half since the first miners' doctor in Idria, Dr Scopoli introduced preventive and curative treatment for miners. Owing to the very high value of Idria mercury and the great demand for this particular metal, medical and social care developed much earlier in Idria than in any other Habsburg province inhabited by Slovenians. It is quite understandable that many authors of medical books have used the experiences from 18th and 19th century Idria as examples and that a rich archive of mining and medical material has been preserved which attracts many Slovene, German and Italian researchers.

### Literature

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#### Biography

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## ***In the steps of Hospes***

F.G. Vescia

### **Summary**

*This brief review traces the evolution of hospitals from their origins to the present.*

### **Résumé**

*Cette brève revue retrace l'évolution des hôpitaux des origines à nos jours.*

We are in a period of transition. Hospitals are merging, becoming conglomerates of H.M.O.'s (\* Health Maintenance Organizations: medical groups providing health care services for insured subscribers) or occasionally shrinking in size. Sometimes to our surprise they simply disappear.

The term hospital comes from the Latin word *hospes*, or guest, as a guest that is taken into one's home. From '*hospes*' came the words hospice, hospitable, hospitality, hospitalism, hospitalization, to hospitalize, host, hostel, hostelry, ostler and ultimately hotel.

A hospital, according to the latest edition of *Stedman's Medical Dictionary*, is "an institution for the treatment, care and cure of the sick and wounded, for the study of disease, and for the training of physicians, nurses and allied health personnel." (1)

How and where did hospitals begin? According to Buddhist scholars a hospital was built in Ceylon by Gautama Sidharta and his son Upatissa around 437 B.C. In the third century B.C., in the reign of King Ashoka, the Hindus built eighteen hospitals that provided an advanced level of public care, including the use of daily baths, exercises, the administration of

medicinal herbs and the performance of surgical procedures.(2) Some historians question these claims for lack of adequate documentation.

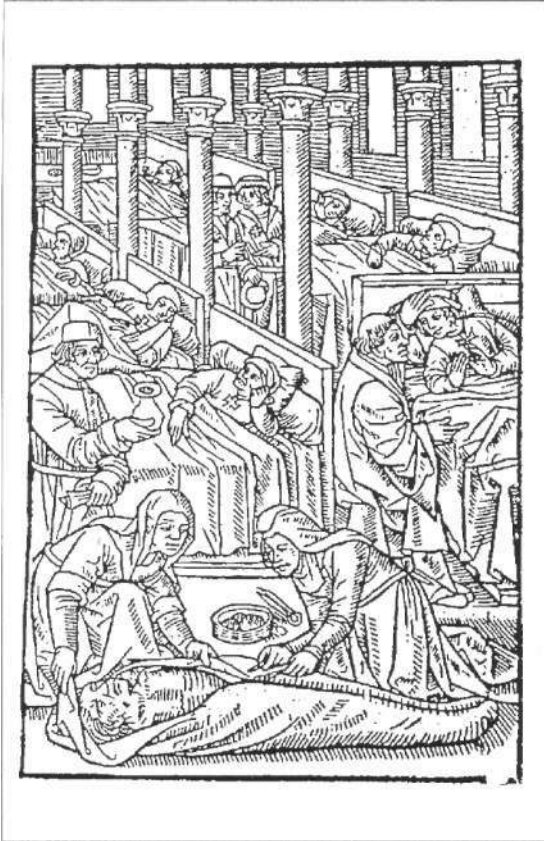
The Greeks believed illness was a punishment of the gods and relied on incantations hoping to appease them. Their physicians practiced their art in medical temples called *Asklepieia*, named after the physician Asklepios who had provoked Zeus's ire for having depopulated the underworld. Clearly their medical temples were not hospitals in our sense of the word.

Pragmatic, disdainful of physical pain and suspicious of Greek philosophy, the Romans built *valetudinaria*. These substantial structures, never more than ten days' march from the troops in the field, were designed to serve wounded or ailing legionnaires so they might recover and rejoin their divisions to fight another day, hence their appellation of "get well places." It was not until centuries later that civilian *valetudinaria* were introduced in Rome and other parts of the Roman Empire. (3)

When Fabiola, a penitent Christian lady, opened her home to the sick in 380 A.D., she epitomized Christian charity. More homes to take care of the sick (*nosochomia*) and strangers (*xenodochia*) followed, all in the name of Christ.(4)

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Reproduction of a woodcut from St. Gelais' *Le Vergier d'Honneur*, French School, ca. 1500 showing a hospital interior.



The most efficient of these early institutions was the hospital at Gondi Shapur. It was built in the middle of the sixth century A.D. by the followers of Nestorius, the deposed bishop of Constantinople, who had migrated to that area in 430 A.D. in search of a safe haven. From such humble beginnings came the inspiration for the great Mohammedan *Bimaristans*: the Al Walid Ibn el Malik of Baghdad, built in 707 A.D., the el Adoudi of Damascus in 900 A.D. and al Qalawun erected in Cairo in 1285 A.D. These hospitals delivered a high level of care, including minimal surgery (cautery, circumcision, incision of abscesses and extraction of cataracts) consistent with the injunction of the Koran against mutilation of the body. For the first time they included a pavilion for the insane referred to in a spirit of compassion as "God's Innocents."<sup>(5)</sup>

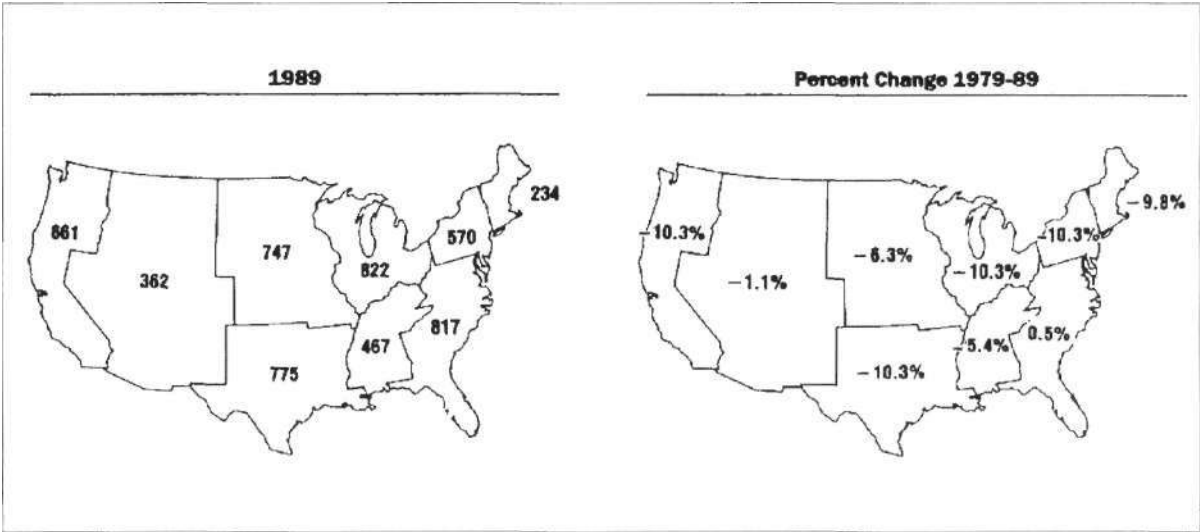
The first important hospital in the Eastern part of the Roman Empire was the *Pantokrator Xenon* (literally: "The Ruler of All" Hospital), erected in Constantinople in 1136 A.D., under the Emperor John Komnenos. It consisted of fifty beds, arranged in *ordinoior* sections, under the care of two physicians. Four additional physicians worked in the outpatient department and two others in a special infirmary for the use of the monks.<sup>(6)</sup> In 1204 A.D., the hospital was sacked by the Christian knights of the fourth Crusade, a forerunner of today's internecine wars in Bosnia and Herzegovina. The *Pantokrator Xenon* survived the sacking and continued to function as a hospital until the knights were expelled in 1261 A.D. and the Byzantine Emperor reinstated. It remained a thriving institution until 1453, when Constantinople fell to the forces of the Ottoman Empire.

In the Western section of the Roman Empire, the hospital model was that of *Santo Spirito* in Rome, commissioned in 1198 A.D. by Pope Innocent III. Operating under the rule of St. Benedict, it was the precursor of many other institutions by the same name: *Holy Ghost in the* English Isles, *Heilige Geist* in Germany and *Saint Esprit* in France. "By 1300," according to Mary Risley, "there were two hundred European hospitals with this name, and by 1400 there were more than nine hundred."<sup>(7)</sup>

Over the centuries, more and more hospitals, lay and religious, were built. As time went on they became increasingly specialized. In the last fifteen years some U.S. hospitals became too expensive to operate. Several were forced to close down. Their number dwindled from 6,965 hospitals in 1980 to 6,291 in 1995, a drop of about ten per cent.

Translated in beds the figures were even more impressive, 1,365,000 beds in 1980 as opposed to 1,081,000 in 1995, a drop of about 20 per cent.<sup>(8)</sup> These reductions affected primarily nonprofit and U.S. Government hospitals, to the

*Distribution of Community Hospitals by U.S. Census Region*



benefit of investor owned hospitals whose numbers increased instead.(9) Another reason for the reduction of hospital beds has been the development of surgicenters for ambulatory surgical patients and of hospices for the care of the dying and terminally ill.

Like early *valetudinaria* designed for Roman legionnaires, some U.S. hospitals today are not open to all comers. Ailing citizens are denied access if they are not part of an H.M.O. or unable to pay for their services. So much for the word *hospes*. VALE.

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10. *American Hospital Association report of 1990-1991* p. xxxIII.

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## ***Saints, Miracles and Healings : Eternal Challenges***

A. Muzur

### **Summary**

*Can miraculous healings be equalized with "spontaneous remissions" from modern medical terminology ? Following the trace of (mostly) medieval miracle accounts, the present paper, though arguing against the use of the term "spontaneous", supports the idea of equalization, finding clear examples of failed or incomplete healings, relapses, and the cases of saints who themselves were passing through the process of illness. In conclusion of this interdisciplinary approach combining historical material with modern knowledge, it is advocated that a significant corpus of miraculous healings have been based on suggestive mechanisms.*

### **Résumé**

*Les miracles doivent-il être considérés comme des "guérisons spontanées" dans la conception actuelle de l'Art de guérir ? En s'intéressant aux miracles (la plupart) du Moyen Age, ce travail tend à s'opposer à l'emploi du terme "spontané" et défend plutôt l'idée proprement dite de miracle. Il analyse des cas de guérison ratée ou incomplète, de récidives, et des situations où des saints eux-mêmes sont passés à travers la maladie. En conclusion, cette approche interdisciplinaire, combinant des recherches historiques et des connaissances actuelles, soutient l'hypothèse selon laquelle un nombre important de guérisons miraculeuses trouvent leur origine dans la suggestion.*

### **General Problems in the Analysis of Miraculous Healings**

Immersed in the flood of the accounts of miraculous-healing, any ambitious investigator, especially if coming from medical circles, confronts the temptation of proclaiming many unexpected inexplicable healings to be "spontaneous remissions". That the symptoms went into remission is obvious, but what does "spontaneous" mean ? Does any process in the world of nature occur spontaneously ? No: this is only one more synonym for our ignorance. "Spontaneous" remission does not exist : Remissions are a result of the intrinsic capacities of the human, and they are triggered by suggestion(1).

One should also admit that we meet, almost exclusively, successful accounts of healing by saints; although there are cases described when a partial or complete failure may be suspected or much more rarely clearly identified. Not all of those who supplicated St Anno of Koln (11 th c.) were satisfied :

*"Who disobeys his vow, will be punished (...). A woman became deaf again (140), a daughter died once more (II 68). Occasionally the sufferings worsen (II 76)" (2).*

Obviously, the purpose of the generalisations was to make the folk obey their vows and to force them to follow certain moral rules. For those of us who look upon it from a more practical side, these statements simply mean that there were cases when the saint failed. By the shrine of St Gibrían (12th c.) as well, only a few of the crowd which visited Gibrían's relics on April 29th, 1145

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were healed; "on a Sunday soon after the acknowledgement of the first miracle of this saint". Of course, the official explanation is again : "Because of their sins, most of them had to go back home in the same way they came" (3). Describing the royal touch of the French kings, for scrofula it was said that "many of the touched were healed; but some were not" (4).

An interesting case when saintly propaganda fights pagan propaganda is described in a *Vita* of St Bernardino.

A free translation reads :

*"In Toscana, one mile from the city of Arezzo, there was a spring called the Secret Spring, welling from beneath a mountain. At this spring many evil-doing and sorcery-practising men and women were gathering from various places, pretending that the water had some positive supernatural qualities. However, this drink was the work of demons, since the water had been under the spells of the sorcerers. Among other things, these men and pestiferous women were doing as follows: if they had found a 1 or 2 year-old boy having some disease, they would bring him to the spring and dip him into its coldness. Because of this, most of the paralysed children died of freezing. These men and women said that this was by divine permission (...). And this same wicked site was very famous (...), so that evil-doers were gathering here not only from surrounding places but also from distant parts. And not only these, but also many other uncultured and wild persons (...)" (5).*

When Bernardino raised his voice against this cult, he was expelled from the city. Obviously, the cult was very strong, and as such it could only have survived if from time to time some miraculous healing had occurred. We owe the objective account of this story to a Christian intention to destroy pagan competition. If the orthodox Christian religion had been exposed to more serious criticism in the Middle Ages (as it

had later with Protestantism and Marxism), maybe the healing accounts would have been more definitive.

Beside failed healings, the accounts indicate the possibility of incomplete cures. Finucane mentions cases when a blind girl «awoke cured, although vestiges of the illness had not disappeared from one eye», and a dumb woman who «could speak somewhat better», etc. (6). In our times these would have provided opportunities for immediate verification as in the case of the young Swedish «saint-to-be» Samira, known for her hands producing oil and forehead secreting blood :

*"there were rumours of miraculous healing. For instance, Intissar Zirga, 13, was blind in one eye after a shooting accident. When Samira put her oily hands on the girl's eyes, her sight was said to be 'completely' restored. However, Martin Johnson, the former professor of parapsychology at Utrecht, said that lead shot was still embedded in Intissar's eye and tests showed that her sight was still not perfect; her faith acted as a placebo, enabling her to make better use of the eyesight she had got" (7).*

That ancient sources were exercised by the problem of relapse is demonstrated by an example in the *Talmud*:

*"Ten things cause a return of the disease one recovered from, and then the disease becomes vehement. Those are: enjoyment of beef, fat, fried meat, bird meat, fried eggs, cress, hair-cut, baths, enjoyment of cheese and animal liver. Some add to it the enjoyment of nuts, some (add) cucumbers" (8).*

The variety of this list of causes shows that the frequent cases of relapse had to be «solved» by imposing rules which practically nobody could obey. The real cause of the high number of relapses seems clear, as Finucane correctly emphasises, not only because some diseases



*St. John of Capestrano, painting by C. Vivarini (15th c). Paris, Le Louvre. Photo : A. Skrobonja*

people probably would have liked to see the man who had returned them their health (10).

How much can we learn from such cases ? Primarily, they prove that, at least in those situations, no supernatural cause needs to be introduced for their explanation. Miracles are not explained by science; otherwise they are not miracles but phenomena obeying certain rules and limits. Miracles either occur or do not occur. They do not take place slowly (cf. the story of the man from the Kinunui family, affected on his skin and in both ears, who received, "after humble service", etc., "the hearing ability first in one, then in the other ear as well". Healing from the skin disease was not mentioned at all). (11). A woman with "a growth as big as a melon on her neck" suffered terribly from pain. Conscious that her illness was caused by her deeds, she dedicated herself humbly to serving God. After 28 years and thousands of votive offerings, "her growth opened and discharged the pus" (12). Is there any superhuman being who would offer help in such a cruel, hesitating, and awkward way ?

### Healers Healed

The phenomenon of saints themselves undergoing the process of illness and its curing is primarily curious. It is important because of its influence on their suggestibility capacities. Eliade mentions the uniformity of initiation rites and healing in several cases of Siberian shamans (13), while Halifax uses the personal accounts of Latin-American shamans to confirm this view (14).

Satya Sai Baba, the modern saint who, materialising remedies and surgical instruments, reminds us that miracles do exist, once claimed to have been taken ill with tuberculous meningitis. He suffered severely for five days, claiming that he actually contracted the disease from another person, and then cured himself from hemiplegia in front of 5.000 spectators (15).

were understood to be healed while they were actually only in remission (rheumatoid arthritis, seasonal variations of avitaminosis causing sight disturbances, etc.) (9), but the effect of suggestion or psychoanalytical healing must very often have been only temporary. As soon as the trigger for the conversion was "reactivated", the conversion disorder reactivated as well. The hagiographers and propagators of the cults of saints were extremely reticent to admit such explanations, but we can still sometimes deduce them from secondary information. The best case for this is certainly that of St. Capestrano. This saint visited Olomouc for the first time in the summer of 1451 and "cured" 94 persons there. At the time of his second visit, three years later, only one of those "cured" was in the crowd to pay greetings to the Saint. As Elbel points out, "one of 94 cured is little if we consider that those

*Polyptych by B. Vivarini (15th c.)  
in the monastery of St.  
Euphemia, Kapor, Rab island,  
Croatia. St. Bernardino of Siena  
as the central figure.*



Bernardino's first known disease occurs in 1401 (16), coinciding with the period of his indecisiveness concerning the choice of his life path and religious order. During Bernardino's stay in Albizzeschi, he was affected with:

*"a bad toothache (...). In order to emit a voice, he had to invest an enormous effort, and, on the other hand, that harsh sound coming out from his throat was so unpleasant to a listener, that his audience was decreasing from day to day". (17).*



Even more significant is the cure of what is presumably laryngitis :

*"After having prayed for a certain time (...), it seemed to him (...)as if a fire ball would have come down from the sky, touched his throat, and disappeared" (18).*

The illness was not ascribed to God, but the curing was. There is some mention of Bernardino's contagion with plague in 1411 (like St Rochus one century before), then *erkrankte er schwer* again, this time in Venice, in 1429 (19). Approaching old age, Bernardino seemingly became a wandering hospital :

*"He had lost all his teeth but one, and that only tooth, so it was said, was swinging in his mouth like a little bell; he has been suffering for years from gravel, dysentery, kidney inflammation, haemorrhoids, gout, and some of his diseases could be attributed maybe to his voluntary denutrition" (20).*

It is strange that a healer by suggestion of such a great capacity and efficiency as Bernardino was not more successful in curing himself. Suggestion can certainly have its limits: inexplicable miracles should not.

## Conclusion

Miracles have religious, cultural, medical, psychological, anthropological, social and so many other aspects that can never be exhausted as atopic (21). Combining historical raw material with modern knowledge, the intention of this work is to demonstrate an interdisciplinary approach based on the presumption that time changes cultural epiphenomena with a much greater velocity than it does to fundamental biological phenomena. This paper was intended to provide support for the author's belief that miraculous healings may be compared with "spontaneous remissions" and that the mechanisms of hetero- or auto-suggestion may be seen in their aetiology.

There is no "wrong" conclusion to be derived from this paper save one: that the ideas exposed are intended to "de-poetise" miracles and destroy their spiritual value in favour of some materialistic explanation. On the contrary: once upon a time Le Roy concluded that "faith is not only the source of illusory or true representations: it is the acting power, able to enter the balance with physical powers»"(22). And it is indeed.

## Notes and references

1. Patricia Norris of the Menninger Clinic, who is best known for her work with a nine-year-old boy healed of a terminal brain tumor, after all earlier treatment had failed, using only biofeedback and mental imagery, says : "It is completely natural to heal. Spontaneous remission is too mystical-sounding; it's like the medieval term "spontaneous generation", when they didn't have enough science to see germs. Doctors think mind-body factors are a very minor part of curing cancer. But patients who are healed say it's major". Marc Barasch, "A Psychology of the Miraculous", *Psychology Today* 27, n° 2 (1994) : 60.
2. *Wer seine Gelübde verletzt, wird bestraft (...). Eine Frau wird wieder taub (I 40), eine Tochter stirbt nochmals (II 68). Gelegentlich verschlimmert sich das Leid (II 76).* Norbert Ohler, "Zuflucht der Armen : Zu den Mirakeln des Heiligen Anno", *Rheinische Vierteljahrsblätter* 48 (1984) : 24.
3. *Wegen ihren Sünden hatten die meisten den Heimweg so antreten müssen, wie sie erschienen waren.* Constanze Rendtel, "Hochmittelalterliche Mirakelberichte als Quelle zur Sozial- und Mentalitäts- geschichte und zur Geschichte der Heiligenverehrung : Untersucht an Texten insbesondere aus Frankreich" (Ph. D. diss., Freie Universität Berlin, 1985), 1 : 69.
4. *Beaucoup de malades touchés guérissent; mais parfois ils ne guérissent pas.* Marc Bloch, *Les rois thaumaturges : Etude sur le caractère surnaturel attribué à la puissance royale particulièrement en France et en Angleterre* (Paris: Armand Colin, 1961), 117.
5. *"In partibus Tusciae extra civitatem Aretii erat quidam fons distans a civitate per unum miliare, qui vocabatur Fonte tecta, qui scaturibat sub uno monte. Ad quem fontem concurrebant multi malefici et incantatores viri et mulieres ex diversis partibus, qui sub specie boni ostendebant aquam istam habere aliquam virtutem supernaturalem. Sed hoc potius erat opus demonum per suas incantationes et ipsorum virtutem prefate aque. Et inter alia que isti et iste pestifere mulieres faciebant, si contingisset puerum unius anni vel duorum habuisse aliquam infirmitatem et allatum esse ad illum fontem per antedictos et dictos mulieres pestiferas, accipiebant et infundebant eum in illum fontem ultra modum frigidum. Ex quo pro maiori parte contracti dicti pueri ex frigidity illius aque expirabant. Ipsi et ipse perverse mulieres dicebant hoc esse divina permissione (...). Et iste locus prophanus in tanta erat fama (...), quod non solum de locis circumstantibus, sed etiam de longinquis partibus concurrebant ad prefatum locum (...) malefice. Et non isti tantum et iste, sed et multe alie diverse persone indocte et bestiales (...)"* Franciscus van Ortroij, "Vie inédite de S. Bernardin de Sienne par un frère mineur, son contemporain", *Analecta Bollandiana* 25 (1906) : 331-32.
6. R.C. Finucane, "The Use and Abuse of Medieval Miracles", *History* 60 (1975) : 8.
7. Paul Sieveking, "On the trainee hairdresser with the greasy hands", *New Statesman & Society* 6, n° 257 (1993): 47.
8. *Zehn Dinge verursachen Rückfall (Recidiv) in die überstandene Krankheit, und die Krankheit ist dann heftig. Diese sind : Der Genuß des Rindfleisches, des Fettes, gebratenen Fleisches, des Fleisches von Vögeln, gebratener Eier, der Kresse, das Abschneiden der Haare, Bäder, der Genuß des Käses und der Thierleber. Einige setzen noch hinzu, der Genuß der Nüsse, Einige noch der Gurken.* Quoted in Gideon Brecher, *Das Transcendentale, Magie und magische Heilarten im Talmud* (Vienna : Druck von Ulrich Klopfer sen. und Alex. Eurich, 1850), 226.
9. R.C. Finucane, *op.cit.*, 9.
10. Cf. also Döring's and Peter of Klatovy's accusations against Capestrano's healings. Martin Elbel, "St John of Capistrano and the Franciscan Convent in Late Medieval Olomouc", (M.A. thesis, Central European University-Budapest, 1994), 13. It is, however, true, that, in the case of ten lepers healed by Jesus, nine did not bother to come back to thank the healer. Luke, 17, 11-19. *Novi zavjeti psalmi* (New Testament and Psalms), transl. by Bonaventura Duda i Jerko Fucak (Zagreb : Krscanska sadasnijost, 1990), 218.
11. Kyokai, *Miraculous Stories from the Japanese*

- Buddhist Tradition : The Nihon ryoiki of the Monk Kyokai*, trans. Kyoko Motomochi Nakamura (Cambridge, MA : Harvard University Press, 1973), 119.
12. Kyokai, *ibid.*, 270. Finucane ingeniously formulates the miracles-relativising time problem : "as if we were to attribute the cure of headache to aspirin taken two weeks earlier". Finucane, *op cit.* 8.
  13. Mircea Eliade, *Le chamanisme et les techniques archaïques de l'extase*, 2d ed. (Paris : Payot, 1968), 40-41.
  14. Joan Halifax, *Shamanic Voices : A Survey of Visionary Narratives* (Harmondsworth, England: Penguin Books Ltd., 1979), 11 and 136.
  15. H. Murphet, *Sai Baba - udesnik* (Sai Baba - Man of Miracles), trans. I. Matosic and Z. Marok (Zagreb : Globus, 1990), 146-47.
  16. According to Doelle, he was diseased *per tres menses*, according to Ortroy, even *iacuit mensibus circa quatuor*. Cf. Ferdinandus Doelle, "Sermo S. Iohannis de Capistrano O.F.M. ineditus de S. Bernardino Senesi O.F.M.", *Archivum Franciscanum Historicum* 6 (1913) : 87; Franciscus van Ortroy, "Vie de S. Bernardin de Sienne par Léonard Benvoglianti", *Analecta Bollandiana* 21 (1902) : 71.
  17. (...) *un grave male di gola (...) L'emettere fuori la voce gli costava uno sforzo grande, e d'altronde quel suono ranco che gli usciva di gola, era cotanto sgradevole a chi lo sentiva, che l'uditorio gli andava scemando di giorno in giorno*. F. Alessio, *Storia di San Bernardino da Siena e del suo tempo* (Mondovi, Italy : Tipografia vesc. edit. B. Graziano, 1899), 106.
  18. *Dopo avere alquanto pregato ... parvegli vedere (...) scendere dal cielo un globo di fuoco, toccargli la gola e sparire*. *Ibid.*
  19. Robert-Henri Bautier et al. eds., *Lexikon des Mittelalters* (München; Zürich : Artemis, 1991), s. v. "B(ernardino) v(on) Siena", by G. Busetto and R. Manselli.
  20. (...) *aveva perso tutti i denti salvo uno, e questo unico dente gli ciondolava in bocca, fu detto, come un campanellino; da anni soffriva di renella, dissenteria, infiammazione dei reni, emorroidi, e anche di gotta, qualcuno dei suoi mali da attribuirsi, forse alla voluta denutrizione*; Iris Origo, *Bernardino da Siena e il suo tempo*, trans. C. Roatta (Milano : Rusconi, 1982), 248.
  21. The investigation of all pros and cons regarding miracles would bring us too far. As an example, let us comment only an extremely negative a priori attitude by David Hume, who suggested four arguments against the existence of miracles. Firstly, there is no miracle in the whole history for which enough reliable testimonies could be found. (Typical Humian sceptical agnosticism, applicable to each and every problem). Secondly, it is in human nature to be less critical towards stories on miracles since surprise and wonderment are pleasant emotions. (Although very interesting as a psychological postulate, it is not quite a firm counter-argument in a discussion on miracles. Hume again shows that he is more occupied by epiphenomena and qualia than miraculous phenomena). Thirdly, stories on miracles are mostly part of barbarian and primitive civilisations. (This conception is completely incorrect: miracles can be found even in a sophisticated civilisation, religious, social or geographical area - they are typical pan-human phenomena. Cf. David Hume, *An Enquiry Concerning Human Understanding / A Letter from a Gentleman to His Friend in Edinburgh*, ed. Eric Steinberg (Indianapolis, IN : Hackett Publishing Company, 1977), 78-82.
  22. *La foi n'est pas seulement source de représentations illusoires ou vraies, qu'elle est force agissante capable d'entrer en balance avec les forces physiques*. Edouard Le Roy, "Essai sur la notion du miracle, I", *Annales de Philosophie Chrétienne* 78, n°1 (1906) : 31.

## Biography

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# **How do cathartic drugs act ?**

## **A case study on Gregor Horst (1578-1636)**

### **and his attempt to defend Galenist theory.**

C. Schweikardt

#### **Summary**

*This case study deals with the argument of the Galenist author Gregor Horst (1578-1636), Medical Professor at Giessen University, Germany, and later town physician in Ulm, in the discussion on how purgatives act. Horst tried to reconcile a number of different opinions within a Galenist framework. His vast erudition enabled him to compare several classical as well as contemporary opinions. He takes into account Galen (129-C.200/216), Erasistratos (c. 330-255 BC), Asclepiades (fl. 1st century BC), the Hippocratic Corpus and the Problemata Aristotelis from antiquity, Mesue and Mundinus (c. 1270-1326) from the Middle Ages, and Jean Fernel (c. 1497-1558), Girolamo Cardano (1501-c. 1576), Johannes Costaeus (d. 1603), Laurent Joubert (1529-1583), Francisco Valles (1524-1592), Tobias Dorncrelius (1571-1605) and Gabriele Falloppio (1523-1562) from contemporary authors. Horst also integrated some Paracelsian ideas from Joseph Duchesne alias Quercetanus (1549-1609). In his attempt to preserve fundamentals of Galenic thought, Horst created a complicated theory nearly breaking under its own weight. He shows a rising divergence within traditional views as well as the fragmentation of Renaissance Galenism which took place already before the discovery of the blood circulation.*

#### **Résumé**

*Cet article montre l'argumentation de Gregor Horst (1578-1636), Professeur de Médecine à l'Université de Giessen en Allemagne, et plus tard docteur municipal à Ulm, dans la discussion sur l'action de médicaments purgatifs. Il essaie de reconcilier plusieurs opinions différentes sur la base des théories de Galien. Son érudition le rend capable de comparer plusieurs opinions classiques et contemporaines. Horst tient compte de Erasistratos (environ 330-255 avant Jésus-Christ) Asclepiades (1er siècle avant Jésus-Christ) et Galien (129-env. 200/216), du Corps Hippocratique et des Problemata Aristotelis de l'Antiquité, Mesue et Mundinus (environ 1270-1326) du Moyen Age, et les auteurs contemporains Jean Fernel (environ 1497-1558), Girolamo Cardano (1501-env. 1576), Johannes Costaeus (mort en 1603), Laurent Joubert (1529-1583), Francisco Vallès (1524-1592), Tobias Dorncrelius (1571-1605) et Gabriele Falloppio (1523-1562). Horst incorpore aussi quelques idées Paracelsistes de Joseph Duchesne alias Quercetanus (1549-1609). Dans la tentative de préserver la base Galienne, Horst crée une théorie compliquée et très fragile. Les explications montrent les points de vue traditionnels qui divergent au cours de la Renaissance et la fragmentation du Galénisme pendant la Renaissance déjà avant la découverte de la circulation du sang.*

#### **Introduction**

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According to ancient Greek humoral pathology, the balance of four body fluids, called humours - blood, yellow bile, black bile and phlegm - is responsible for good health. The four

humours possess certain characteristics, the primary qualities warm, cold, moist and dry. Blood is warm and moist, yellow bile warm and dry, black bile cold and dry, and phlegm is cold and moist. Secondary qualities, such as density, rarity, lightness, gravity, hardness and fragility, supposedly result from a specific mixture of primary qualities (1). "Galen regards all part of the body as a combination of the primary qualities, but modified by the addition of secondary qualities" (2). Excess of a particular humour or corrupt humours can lead to disease. Corrupt humours which cannot be improved, or an excess of a humour, have to be eliminated from the body. This removal, called purging, was seen as an important method of treatment from the time of Galen (129-c. 200/216) far into Early Modern times (3). The extensive use of purgatives in the treatment of the French king Louis XIV. (1638-1715) (4) is just one example of its great popularity in the 17th century.

The theoretical framework which justified the use of purgatives in Early Modern Galenism can be seen very well in the writings of Gregor Horst. Horst, professor at Giessen University, Germany from 1608 until 1622 and afterwards town physician in Ulm (5), defended Galenism in the early 17th century (6). He was held in high esteem by his contemporaries and called "deutscher Askulap" (7).

Four reasons make Horst very suitable for a case study : He considers purging an important part of his treatment. His vast erudition enables him to compare the views of a large number of classical and contemporary authors. He usually acknowledges his sources when he cites different opinions. Last, but not least, in his "Opera medica", which were edited by his son and include nearly all his writings, Horst does not present only textbook knowledge. At the end of the chapter on purgatives, he concludes with the "quaestiones", points of discussion among contemporary authors. So the reader gets a first-hand account of Horst's argumentation.

Horst had to meet the challenges of his day from within and outside traditional medicine. Already the 16th century had seen diverging opinions on drug action among Galenists, as Owsei Temkin showed in the writings of the famous physicians Jean Fernel (1497-1558), Laurent Joubert (1529-1583) and Thomas Erastus (1527-1583) (8). Studying Horst, we can extend Temkin's insights into the early 17th century.

During the Renaissance traditional learned medicine flourished due to reception of ancient texts and thereby stimulated research. However, it also saw itself challenged by Theophrastus von Hohenheim, called Paracelsus (1493-1541) and his followers. Paracelsus had condemned Galenism. He tried to replace it by an alternative natural philosophy, based on folk medicine, religion, astrology and the three active principles salt, sulphur and mercury, representing solidity, inflammability and spiritousness, respectively. Paracelsian doctors who had gained influence on German courts, such as Oswald Croll (1560-1608) and Johannes Hartmann (1568-1631), made chemical remedies popular (9). Horst had to take Paracelsianism seriously. In the introduction to his "Opera medica", he compared the Paracelsists with Empiricists and Methodists in antiquity, in his view two sects justly criticized by Galen. In Horst's opinion, the Paracelsians do not care enough for the method of reasoning, relying too much on experience alone (10). For a short review of some fundamentals of Galenism which Horst would not give up easily, let us turn first to the opinions of Galen and Fernel - whom Horst held in high esteem (11) - on cathartic drugs and then access Horst's contribution to the controversy.

### Drug action according to Galen and Fernel

"The nature of man" of the Hippocratic Corpus had already dealt with the action of cathartic drugs, drawing an analogy between seed and humours. For nourishment, seed draws from the

earth first what corresponds closest to its nature. Accordingly, a purgative attracts and evacuates the humour closest to its own nature before removing other humours (12).

Galen elaborated a theoretical structure for the classification of drug action. He stated that purgatives belonged to the group of drugs which acted by "similitude of the whole substance" (13). This "familiarity" or close relationship of the mixture between humour and drug supposedly led to the drug action resembling the attraction of the magnet for iron (14). Accordingly, a specific purgative would attract a specific humour and expel it from the body (15).

The other principle of drug action according to Galen derived from the principle *contraria contrariis* (16).

Galen distinguished primary, secondary and tertiary qualities (or faculties) of drugs. The primary qualities are the elementary qualities hot, cold, moist and dry (17). Secondary qualities arise from different mixtures of the first qualities, leading to a relaxing, contracting, hardening, rarefying or solidifying effect (18). Tertiary qualities are primary or secondary qualities which have a special effect on, or lead to, a specific reaction of one part of the body (19). If the balance of the humours which constitutes health is disturbed in one direction, a remedy with the opposite quality is necessary. An excess of the hot quality, for example, leads to a fever. Therefore a remedy with the opposite or cold quality is indicated in order to restore health. Drugs supposedly acted by transmitting qualities into the body or replacing one quality with another (20).

Galen's doctrine of specific cathartics remained valid until the Renaissance : "As long as classical humoral pathology was basic to medicine, the doctrine of specific cathartics remained fundamental, too. The existence of specific cathartics, though not accepted by all

physicians of all times, yet presented something of a dogma in the sixteenth century, and certain drugs were well-known for their specific action" (21).

Contrary to Galen, occult qualities were often described during the Middle Ages as tertiary qualities (22). Fernel used the terms "tertiary quality" and "occult quality" in order to describe drug actions which could not be derived from qualities accessible to the senses. Therefore, these drug actions had to be traced by observation of the effects they induced.

According to Fernel, the occult qualities of cathartics resulted from a "similitude of the whole substance" originating from an active inner principle, higher in rank than qualities and matter, the "form" (23). Fernel proposed the following mode of action : a magnet is active whenever in the vicinity of iron, but a specific cathartic is activated during its digestion with the help of the internal heat. While its substance remains in the stomach or intestines, the drug gives rise to an acrimonious vapour. This vapour spreads to all parts of the body through invisible ducts and thus reaches the noxious humour. By its acrimony, the vapour cuts up the humour. By its adverse quality it also strongly stimulates the containing part and provokes it to discharge the noxious humour. The local action of the vapour and the attractive action on the part of the substance of the drug together force the humour to descend to the stomach. So drug and humour are expelled after exciting the discharging faculty of the intestines (24).

### Horst's discussion

Horst's own intention in examining the opinions of ancient and contemporary writers is, as he himself states, to provide a better exposition of the truth (25). He addresses three central points of discussion : is there a direct drug effect on the specific humour ? How to deal with assertions that attraction is not the decisive



mode of action ? How can the drug effects be traced back to the characteristics of the drug, in other words, how to explain the drug effects in terms of qualities, temperament and form ?

Addressing the first question, Horst accepts the doctrine in the Hippocratic Corpus that specific cathartics do exist, drugs which eliminate a specific humour from the body. Therefore he rejects the Alexandrian doctor Erasistratos (c. 330-255 BC), known to him through Galen, who opposed the doctrine of specific cathartics. According to Erasistratos, the degree of fluidity is essential : a purgative evacuates every humour, starting with the most fluid and gradually moving to the more solid ones. Horst concedes only that the more fluid parts of a specific humour will be evacuated first because they can be removed from the body more easily (26).

Furthermore, Horst affirms a direct action of a drug on the humours. However, he does not dismiss the contrary opinion of the Bologna professor Girolamo Cardano (1501 - c.1576) entirely. Cardano had maintained that all action stems from a living body. The drug itself does not attract the humour directly but it affects the gastrointestinal tract which then attracts the humour. Horst argues that the magnet which attracts iron does not live. An influence of the drug on the intestines, however, supporting the evacuation of the noxious humour, is acceptable (27).

According to the *Problemata Aristotelis*, a swallowed purgative is dispersed within the body, liquifies noxious humours, and pulls these humours along, thereby purifying the blood. Horst judges this statement correct but insufficient, because this theory does not explain why a purgative purges one corrupt humour better than another and why it purges one part of the body better than another (28).

The assumption that attraction of humours is the central drug effect, had already been

challenged in antiquity by Asclepiades, a physician in Rome in the 1st century BC. Asclepiades maintained that a drug could change the nature of a humour according to its own nature. A cholagogue for example supposedly created yellow bile within the body and then purged it, a mechanism different from attraction. Horst rejects this referring to his own experience (29).

In Renaissance medicine Joubert and Joseph Duchesne alias Quercetanus (1549-1609) had argued against attraction as the leading principle of purgation. Joubert, on the one hand, relied mainly on the expelling faculty of the body, and stressed contributory antipathy between drug and humour (30). According to Joubert, irritation of the expelling faculty - one of the natural faculties with which, according to Galen, all parts of the body are endowed - combined with antipathy between drug and humour leads to the evacuation from the body (31). His argumentation remains basically Galenist. Duchesne, on the other hand, is arguing for the Paracelsian camp. According to Paracelsism, not the elements but three chemical principles salt, sulphur and mercury are responsible for actions in nature and for the effect of drugs. Duchesne postulated a direct influence of the drug on the body. Salinic spirits of a purgative supposedly irritate the good-natured spirits of the body and stimulate them to excrete the humours. It is difficult for Horst to argue against these two positions. He asks - and thereby implicitly judges this mode of action unlikely - how a humour from the remotest parts of the body, far away from the intestines, could be forced into them by antipathy. Against the view that a suitable purgative taken in would attract such a humour, Joubert would not easily show that a purgative pushed a humour a long way into the intestines by means of antipathy. From all modes of action offered and all arguments Joubert can provide, the activation of the expelling faculty of the remote body parts would, according to Horst, play the main role in this regard (32).

This comes close to the mode of action Duchesne proposes. In short, Horst does not reject the notion of antipathy entirely, but he would not be in line with Joubert. Instead of an antipathy between drug and humour, Horst maintains an antipathy between the drug and the part of the body where the noxious humour sits. Through its antipathy the drug activates the expelling faculty of this body part, which contributes to force the humour into the intestines.

Now Horst turns to the main cause for catharsis. Whereas the properties of many drugs are explained today by their molecular structure and their interaction with cell surfaces and receptors, Galenist authors searched for explanations within traditional theoretical pharmacology. So different authors attributed properties of cathartic drugs to the manifest primary and secondary as well as to occult qualities. As far as the primary qualities are concerned, Horst cites the analogy between the sun and a drug. Accordingly, the hot quality of a drug would be responsible for evacuation just like the sun attracting moisture from the ground. However, attraction of moisture is, contrary to purgation, indiscriminate. Therefore Horst concludes that the hot quality of a drug only supports purgation (33).

The same is true for attributes originating from a specific mixture of the qualities. Francisco Valles (1524-1592), personal physician of the Spanish king Philipp II (1527-1598), had suggested that, in combination with the hot quality, characteristics such as colour, consistence or friability were responsible for the cathartic effect. Horst argues, that these characteristics, however, can be changed by decoction, extraction or infusion, whereby the strength of the drug remains (34). He agrees with the Luneburg town physician Tobias Dorncrelius (1571-1605) that a higher degree of acrimony and tenuity does not necessarily indicate the greater strength of a purgative (35). However, the tenuity and acrimony or bitterness of a drug adds to its effect (36).

So the main effect is left to the "occult qualities" and "similitude of substance". Here, Horst combines the theories of Mesue (37) and his commentators Mundinus (c.1270 - 1326) and Johannes Costaeus (d. 1603) with those of Fernel and Gabriele Falloppio (1523-1562). The occult quality comes from heaven, as stated by Mesue and his commentators. Vigour from heaven, transferred to the forms, gives the drug the power to purge. The mixture of the drug serves the form in order to fulfill its tasks (38). The mode of action then is essentially the same as described by Fernel : a purgative is agitated by the inner heat and resolved, disperses vapours and spirits, attracts humours and separates them from others. The discharging faculty of the body is excited and throws out the drug and the noxious humour (39).

Contrary to Fernel, Falloppio maintains that "similitude of substance" does not lie in the form but in the temperament, coming forth from the mixture of the primary (elementary) qualities. This temperament is similar to the temperament of the noxious humour. The form determines how something is mixed which leads to the specific characteristics of the drug. Horst sides neither with Falloppio nor with Fernel but maintains that both modes of action of the same drug are possible (40).

## Conclusion

Horst provides a thorough look from the 17th century back to antiquity on the one hand, and to contemporary discussions on the other. Horst's remarks show how difficult the task to reconcile the views of some outstanding Galenists had become in the early 17th century. In order to explain the nature of occult qualities, Fernel adhered to a theory which was openly rejected by Falloppio, and Horst will not take sides between the two. Aside from the authority of Hippocrates and Galen, Horst does not have convincing arguments to dismiss the concept of antipathy between drug and humour in favour of

attraction. He tries to integrate antipathy by maintaining that an antipathy exists between drug and body, not between drug and humour. Paracelsian influences are accepted in a limited fashion and in such a way that they do not undermine the traditional framework. In short, Horst creates a complicated theory, nearly breaking under its own weight.

The rising divergence within traditional views without a revolutionary upheaval is part of the development of the theoretical structures within Galenism, which were neither static nor monolithic, but, on the aspect studied, creative and diverging. Horst's attempts of reconciliation are an example of the fragmentation of Renaissance Galenism already before the advent of the blood circulation which wrecked basic assumptions of Galenic physiology and therefore dealt a further blow to the authority of Galenism.

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## Notes

1. On qualities, see R. Siegel, *Galen's System of Physiology and Medicine*, Basel, Karger, 1968, p.141, pp. 145-151, and G. Harig, *Die Bestimmung der Intensitat im medizinischen System Galens*, Berlin, Akademie-Verlag, 1974, pp. 105-114.
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- Dilg. H. Rudolph, eds, *Resultate und Desiderate der Paracelsus-Forschung*, Stuttgart, Steiner 1993, pp. 145-62, pp. 152f. O. Croll, *Designaturis internis rerum : die lateinische editio princeps (1609) und die deutsche Erstübersetzung (1623)*, W. Kuhlmann & J. Telle, eds, Stuttgart, Steiner, 1996, pp. 6-9.
10. G. Horst, *Operum medicorum tomus primus... cura Gregorii Horstii Junioris*, Gouda, Gulielmi vander Hoeve, 1666, p. 3 : «Haec est vera medicinae constitutio, quam ob causam vehementer lapsi sunt olim Empirici & Methodici... Hodie duas hasce sectas una Pseudo-Hermetica repraesentat, a Theophrasto Paracelso ducens originem, qui veterum medicorum placitis contemptis nova principia sibi excogitavit & ita novam sectam a vera Alchymistica, quam olim Avicenna, Rhases, Villavovanus & alii proposuerunt, & cum rationali Medicina conjunxerunt, diversam constituit. Verum cum eadem secta, quatenus cum Empiricis convenit, intempestiva Experientia peccet, prout autem cum Methodicis [sic] affinitatem habet, insufficient! ratiocinationis discursu utatur, ideo eandem suis relinquimus tutoribus, & in verae Medicinae systemate constituto acquiescimus».
  11. Horst called Fernel *Autor noster* and incorporated summaries on therapeutic principles, bloodletting and purgation - the first three books of Fernel's *Therapy* of the treatise *Universa medicina* - in his own work. Horst, op.cit., note 10 above, on therapeutic principles (De methodo medendi), pp. 330-32, on bloodletting pp. 340-43, on purgation pp. 358-62.
  12. Hippocrates, On the Nature of Man, E. Littré, ed, *Oeuvres complètes d'Hippocrate*, 10 vols, Paris 1839-1861, reprint Amsterdam, A. Hakkert, 1979, vol. 6, ch. 6, pp. 44-47; Temkin, op.cit., note 8 above, p. 61.
  13. Galen, De simplicium medicamentorum temperamentibus ac facultatibus, book 8, ch. 25, C.G. Kuehn, ed, *Opera omnia*, Officina Libraria Car. Knoblochii, Lipsiae, 20 vols, 1821-1833, vol. 11, pp. 613f.
  14. Temkin, op.cit., note 8 above, p. 61.
  15. Galen, op.cit., note 13 above, book 8, ch. 25-26, pp. 611-15, and book 5, ch. 17, pp. 760f. Temkin, op.cit., note 8 above, p. 61.
  16. Harig, op.cit., note 1 above, p. 110.
  17. Harig, op.cit., note 1 above, pp. 106f.
  18. Harig, op.cit., note 1 above, p. 111.
  19. Harig, op.cit., note 1 above, p. 112.
  20. Siegel, op.cit., note 1 above, p. 150.
  21. Temkin, op.cit., note 8 above, p. 61.
  22. Harig, op.cit., note 1 above, p. 114. He stresses the difference between Galen's definition of tertiary qualities and medieval tertiary qualities. On «occult qualities», see the papers in August Buck, ed, *Die okkulten Wissenschaften in der Renaissance*, Wiesbaden, Harrassowitz, 1992, especially C. Meinel, Okkulte und exakte Wissenschaften, pp. 21-43, and P. Blum, Qualitates occultae : Zur philosophischen Vorgeschichte eines Schlüsselbegriffs zwischen Okkultismus und Wissenschaft, pp. 45-64. See also K. Hutchinson, What happened to occult qualities in the Scientific Revolution ? *Isis*, 1982, 73, pp. 233-53, idem, Supernaturalism and the mechanical philosophy, *Hist. Sci.*, 1983, 21, pp. 297-333.
  23. J. Fernel, *Therapeutices universalis, Universa medicina*, Genevae, apud Samuelem de Tournes, 1668, book 3, ch. 3, pp. 211f., book 4, ch. 5, p. 226, p. 229.
  24. Fernel, op.cit., note 23 above, *Therapeutices universalis*, book 3, ch. 6, p. 213. Temkin, op.cit., note 8 above, p. 62.
  25. Horst, op.cit., note 10 above, p. 362 : «Cum statim ab initio autor noster hanc quaestionem attingat, omnino necessarium est, ut eandem hie etiam plurimum repetamus, ubi diversae quorundam tam veterum quam recentiorum opiniones examinandae sese offerunt, de quibus agemus paucis, ut Veritas eo magis pateat».
  26. Ibid. p. 362 : «Inter veteres Erasistratus, quod habet Galenus in lib. de facult. med. pur. cap. 2. et 3. statuebat, purgans medicamentum aequaliter omne genus humorum evacuare, ita ut emulgeat humorem tenuiorem, quo moto pro ratione crassitiei sequantur alii ... Verum hanc assertionem tribus modis recte noster Autor infringit...» Galen, op.cit., note 13 above, De purgantium medicamentorum facultate, ch. 1, pp. 324-28.
  27. Horst, op.cit., note 10 above, p. 363 : «Cardanus de subtilit. et lib. 2 contr. tr. 1 contr. 3 novum figmentum de purgatione proponit, dum statuit omnem attractionem, quae fit ratione similitudinis substantiae, fieri a corpore vivente qua de causa concludit, pharmacum facere quidem ad attractionem humorum, sed non immediate, verum mediate, quatenus primum nova qualitate

ventriculum et intestina afficit, quae affecta tali qualitate peccantes humores trahunt, adeoque tractio ipsi fit a partibus viventibus... Verum hanc assertionem non immerito impugnat Fallopius, utpote cum primum fundamentum infirmum sit, quatenus omnis tractio non a vivente tantum proficiscitur, quemadmodum magnes et ferrum... confirmant...» G. Cardano, *Contradicentium Medicorum libri duo*, Parisiis, Apud Jacobum Macaeum, 1564, p. 9a.

28. Horst, *De purgatione*, op.cit., note 10 above, p. 362 : «Porro tertio loco perpendenda est opinio Aristotelis, qui in 1. sect. probl. num. 40 et seq. statuit, pharmacum habere talem naturam, ut non possit a calore nostri corporis concoqui, possit tamen attenuari et per universum corpus eliquare illud ipsum, quicquid est excrementitium, adeoque omnes humores agitare, quo facto retrocedens per easdem vias secum trahere, quos liquavit humores excrementitios, adeoque sanguinem purificare. Etsi vero recte dicantur haec omnia a Philosopho, non tamen sufficienter, propterea quod hinc ratio reddi nequeat, cur hic vel ille peccans humor prae caeteris hac vel illa regione magis expellatur...» *Problematum Aristotelis Sectiones duodequadraginta. Problematum Alexandri Aphrodisei Libri Duo*, Theodoro Gaza interprete, Lugduni, Apud Paulum Mirallietum, 1550, p.21.
29. Horst, op.cit., note 10 above, p. 362 : «Altera opinio est Asclepiadis, quam etiam Galenus passim refert, nimirum voluisse Asclepiadem Medicum, quod Medicamentum purgans evacuet determinate humores praeter naturam, verbi grati acholagogum educabilem; non autem quasi talis in corpore fuerit, sed quatenus medicamentum quemlibet humorem in sui naturam converteret, unde ex medicamento purgante non tantum sequeretur purgatio, sed etiam generatio determinati humoris. At vero quanquam negare non possimus, ipsum medicamentum actuatum separare et attrahere peccantem humorem, falsum tamen, illud ipsum tantae activitatis statuere, quo totaliter eundem mutare queat, id quod aperte satis experientia confirmat».
30. Temkin, op.cit., note 8 above, p.64.
31. On Joubert, *Ibid*, pp. 62-4.
32. Horst, op.cit., note 10 above, p. 363: «... ita etiam non facile monstrari potest a Iouberto, quomodo purgantia per antipatheiam ex venis & remotissimis partibus humores fugent, unde confiteri cogitur, maxime partium expultricem hic agere, quatenus a medicamento irritatur... Non admodum ab opinione Iouberti quorundam Hermeticorum assertio abluat, quemadmodum apud Quercet. lib. II. defens. Herm. Med. cap. 7. ubi virtus purgatrix salinis spiritibus tribuitur, ita tamen, ut vis illa non tantum in sale purgantium, quatenus simpliciter sal est, statuatur, sed quatenus amaritudo salis stipatur irritante quodam spiritu, cuius vi atque energia eiusmodi functiones obeantur. Siquidem (inquit Quercetanus) cum spiritus spiritibus facile connectantur, vitales expultrici nostrae facultatis spiritus facile a spiritibus salis provcantur ad eorum excretionem, a quibus irritantur. Salinos enim spiritus mordaces & acres benigni nostri spiritus fere nequeunt, quin illos tota vi commoti & irritati excludant, quibus expulsis pacati conquiescant etc. at parta victoria, inquit, cum hostibus perturbatis varia etiam pravorum humorum sarcina simul liberata est, quorum expulsio fere [sic, in Quercetanus original: vere] purgatio dicitur. Manifestum igitur, quod hic purgans medicamentum non aliter quam per antipatheiam agat..." *ibidem*, p.364 : Nec omnino rejiciendum, quod habet Ioubertus, opinione VL, per antipatheiam purgationem fieri, quatenus proprie dictum pharmacum naturae nostrae repugnat, adeo purgatio nonquam fiat, quin propter antipatheiam illam vis expultrix extimulata ad expellendum irritetur, quod vel maxime patet Opinione VII. dum salini spiritus nobis inimici purgationem peragere dicuntur... « L. Joubert, *Paradoxorum decas Prima atque altera*, Lugduni, Ad Salamandrae, 1566, p. 494. J. Duchesne, *Ad veritatem Hermeticae medicinae ex Hippocratis etiam veterumque decretis, ac therapeutici propugnandam, adversus cuiusdam anonymi Phantasmata Responsio*, (Frankfort, W. Richter?, 1605), p.61, pp.63f.
33. Horst, op.cit., note 10 above, p.362 : Sunt qui calori medicamenti vim attrahendi noxios humores attribuere conati sint: cum enim vidissent solem satis evidenter ex aquis et terris solius caloris beneficio ingentem exhalationem copiam attrahere... Quamquam vero negare non possumus... calorem adjuvare purgatricem qualitatem medicamenti, longe tamen alia est attractionis ratio praedictarum rerum, quam in purgantibus, quippe sol absque discrimine caloris vi vapores quacunque materia humida producit...».

34. Ibid, p. 362 : «Non autem hic sufficit Vallesii lib. 9. controvers. cap. I. auctarium, qui vi caloris attractionem succorum fieri decit, cum opinione praecedenti, sed addito, quod illa tractio non aequaliter omnes, sed certos tantum humores respiciat propter similitudinem non in primis qualitatibus, sed in illis accidentibus, quae consequuntur substantiae modum, qui nascitur ex modo mixtionis, ut sunt color, crassities, tenuitas, friabilitas & tales aliae qualitates, quae sunt magis ex parte materiae. Non, inquam, rei difficultati satisfit, propterea quod haec operatio purgantium longe nobilior sit, quam ut a modo substantiae tali deduci queat, utpote qui mutari potest, vi purgatrice nihilominus remanente, quod infusionibus, extractionibus, decoctionibus et similibus appareat». F. Valles, *Controversiarum medicarum ethilosophicarum libri decern*, Compluti, exofficina Ioannis Brocarii, 1556, pp. 145f.
35. According to this theory, the degree of acrimony, bitterness and tenuity indicates the strength of a drug. Weak drugs only evacuate yellow bile, stronger ones phlegm, and the strongest also black bile. Horst. op.cit., note 10 above, p. 362 : «Non sequitur, quod monet Dorncreilius tr. de purg. cap. I. quod purgantia, quoacriora et tenuiora fuerint, eo quoque humores crassiores & in paribus remotiores existentes evacuent, ita ut pharmaca minus acra et amaritudine fere carentia bilem duntaxat flavam attrahant, his acriora et tenuiora prompte pituitam eliciant; succum vero melancholicum non nisi illa, quae cum vehementi acredine insignem amaritudinem obtineant...» T. Dorncreilius, *Dispensarium novum... cui... accessit eiusdem auctoris Tractatus De purgatione utilissimus*, Hamburgi, Exbilbiophilo Frobeniano, 1604, p.120f.
36. Horst, op.cit., note 10 above, p. 364: «Imo calor is etiam in promovenda purgatione magnam activitatem esse non negamus... quatenus omnis vitalis actio, & per consequens etiam superfluum excretio, caloris adjumento perficitur, in primis ubi tenuitas substantiae, amarities, acrimonia & similia accedunt...»
37. On Mesue, see Lieberknecht, note 3 above, pp. 4-8.
38. Horst, op.cit., note 10 above, p. 363 : «Hanc occultam proprietatem agendi Mesues sub inst. canon Vnivers; theor. 1. a coelo medicamento communicatam statuit, ita tamen, quod monet Mondinus, in addition., ut complexio sit principium praeparativum deserviens specificae formae, quoad illam operationem : ad hoc facillime cum Hippocr. assertionem conciliatur, quatenus de Mesue, ut inquit Costaeus in additioni. ad hunc locum, non est admirandum, quod medicamentum quatenus tale, id est formae gratia, quae profecto rei cuique largitur, ut hoc ipsum sit, quod quaeque est & coelestivi, quae impartitur formas, purgandi vires obtinere medicamenta profitetur». Mesue, *Opera de medicamentorum purgantium delectu, castigatione, et usu libri duo...* Cum Mundini, Honesti, Manardi, et Sylvii in tres priores libros observationibus... Atque item Ioannis Costaei Annotationes, Venetiis, Juntae, 1589, pp1 bf., 3a.
39. Horst, op.cit., note 10 above, p. 363f.: «Est enim occulta proprietas nihil aliud, quam similitudo substantiae, qua medicamentum cum humore expurgando convenit, cuius ratione medicamentum agit & humor patitur, illudque sibi familiarem succum trahit, hinc vero trahenti pharmaco cedit, quod fit ea ratione, quatenus medicamentum purgans a calore nativo actuatur, cuius resoluti vapores et spiritus in totum corpus disperguntur, qui postea vi appropriata totius substantiae sibi familiares humores attrahunt & a reliquis separant, ubi natura tam a noxiis humoribus, quam ipsius medicamenti qualitatibus alienis extimulata facultatem expultricem excitat, ut una cum medicamento purgante simul etiam peccantem humorem expellat».
40. Ibid, p. 364: «Fallopium de simpl. cap. 4 ejusmodi similitudinem substantiae consistere dicit in natura quadam corporea, quae non sit ipsa forma, sed habeat tale temperamentum, quod parum distet a temperamento illius, quod attrahitur, qua ratione diversatrahendi principia uni eidem medicamento concedi possunt, quod sano sensu approbamus». G. Falloppio, *Opera quae adhuc extant omnia, in unum congesta*, Francofurti, Apud haeredes Andreae Wecheli, 1584, pp. 32f. Seeing similitude of substance and form as equivalent for the explanation of drug action, as stated by Fernel, is rejected by Falloppio who criticizes Fernel by name.

## Biography

Christoph Schweikardt obtained a medical doctorate at Giessen University in 1996 and a M.A. degree in History at Leiden university in 1997. Currently, he holds an assistant position at the Institut für Geschichte der Medizin in Halle/Saale, Germany.

## ***The Medical Statues of Paris***

N. McIntyre

### **Summary**

*Many statues of doctors have been erected in Paris. Sadly, many bronze monuments were deliberately destroyed during the Second World War, including memorials to Claude Bernard, Broca, Charcot, Pean, Raspail and Ricord, and to Berlioz who was a medical student in Paris. Only those of Bernard and Berlioz were replaced after the war. Bronzes of Bichat, Clemenceau, Pinel and the Barons Larrey (Dominique Jean and Hippolyte - father and son) survived the cull, as did the stone monuments commemorating Servetus, Vulpian, Tarnier and Marey.*

### **Résumé**

*Une série de statues de médecins ont été érigées à Paris mais malheureusement, beaucoup de monuments en bronze vont être volontairement détruits pendant la seconde guerre mondiale, y compris ceux de Claude Bernard, Charcot, Pean, Raspail, Ricord et Berlioz qui fut aussi étudiant à Paris. Seulement, les statues de C. Bernard et Berlioz ont été remplacées. Les bronzes de Bichat, Clemenceau, Pinel et des barons Larrey (Dominique Jean et Hippolyte - père et fils) ont survécu comme les monuments en pierre commémorant Servet, Vulpian, Tarnier et Marey.*

### **Osier's impressions of Paris**

In 1909, in an article entitled «Impressions of Paris. I. Teachers and students» William Osier wrote - 'Asked the strongest single impression made on me here, I should reply: «The extraordinary reverence of the French....The history of science is writ large in the city; in monuments, in buildings dedicated to the illustrious dead and in streets called by their names. There are more statues to medical men in Paris than in Great Britain and the United States put together;...» (1). The last statement was not correct, though true for individual cities like London, New York or Washington.

Unfortunately some of the statues which Osier might have seen in Paris in 1909 no longer exist. After the German occupation in June 1940 many were destroyed because, on 11th October 1941, the Vichy Government issued a law ordering the removal of «statues and monuments of copper alloys situated in public places and administrative locales in order to recycle the metallic components for industrial production." The stated intention was «to replace these metal monuments subsequently with ones of stone» (2).

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*\* Square brackets [] in the text indicate the Arrondissement in which the statue or monument was erected.*



A commission was set up to consider which were to be removed. It chose some sculptures to be «preserved because of their historic or aesthetic characters they included the bust of Joseph Capitan. Clemenceau's statue was in a second group whose fate was to be determined by the Undersecretary of Education. The list of monuments to be melted down was divided into eleven sections. Those in the first nine sections were removed by February 1942. Statues in the last two sections, including that of Pinel, were spared - probably because the manpower necessary for their removal was lacking at the time; this may also explain why many of the pedestals were not removed .(2)

The original statues of the following doctors disappeared from the Paris scene - Claude Bernard, Broca, Charcot, Marat, Metivier, Pean, Raspail, Renaudot and Ricord, together with that of Berlioz who had been a medical student in Paris. The only ones replaced by stone statues after the war were those of Bernard and Berlioz. Photographs of the statues of Broca, Charcot, Marat, Pean, Raspail and Renaudot, and of the original statues of Bernard and Berlioz, can be found in Hargrove's book *The Statues of Paris* (1989) .(2)

Falguiere's statue of the great neurologist Charcot (1825-93), erected in 1898, stood on the Boulevard de l'Hopital [13] near the Salpêtrière; that of Paul Broca (1824-1880), by Choppin, on the Boulevard Saint Germain [6]. Although their statues have gone, both men are remembered for their great contributions to medicine. Charcot created a great neurological clinic in Paris, providing classic descriptions of many diseases including hysteria, amyotrophic lateral sclerosis and multiple sclerosis. Broca, a surgeon at the Necker hospital, was the father of modern neurosurgery; because of his work on the localisation of cerebral function the centre for articulate speech is still known as Broca's area.

Jules Pean (1830-1898) was a distinguished gynaecologist. A skilful ovariologist, he was the first to remove fibroids *per vaginam* and is said to be the inventor of the simple haemostat for the control of bleeding. His statue by Gauque was placed on the Boulevard de Port Royal [13] in 1909. That of his friend Phillipe Ricord (1800-1889) stood on the same Boulevard. Born in Baltimore of French parents, Ricord became chief surgeon at the Hopital de Midi, which in 1893 was renamed Hopital Ricord. Ricord moved in high social circles and was physician to Napoleon III. He was the greatest authority of his time on venereal disease, and the first to describe three stages of syphilis; it was Ricord who corrected John Hunter's misconception that syphilis and gonorrhoea were manifestations of the same underlying disease.(3)

Some of the doctors commemorated by statues were famous for their political affiliations, not as physicians. Threophraste Renaudot (1586-1653 or 57), a protege of Cardinal Richelieu, became physician to Louis XIII. He was made commissary general of the poor of the Kingdom, and charged with the organisation of a programme of public assistance. He introduced France's first pawnshops. He also created charitable institutions which provided free medical care for the poor. Understandably this move proved unpopular with French doctors, and after the deaths of Richelieu and Louis XIII he was barred from practice in Paris. In 1631 he founded *La Gazette*, France's first newspaper, and is therefore considered the father of French journalism. A handsome bronze statue of Renaudot, by Boucher, was erected in 1893 on the Rue de Lutece [4].

Alphonse (Jean-Baptiste) Baudin (1811-1851), doctor and French deputy, was a martyr of the barricades of the Second Republic during the resistance to Napoleon III's coup d'etat of 1851. In 1868 eight journalists were prosecuted because they tried to have a monument erected to Baudin's memory. One, Charles Delescluze,



Fig 1 - Claude Bernard

*Terreur Blanche* reached the Vaucluse, he was persecuted and lost his job because of his republican and Bonapartiste opinions. He moved to Paris and became a distinguished chemist. In 1827 he came to believe that camphor had many properties of medicinal value, including an antiseptic role in the treatment of wounds. Although he had no medical qualification he practised medicine on the basis of the use of camphor, working mainly among the poor; his camphor based drugs were manufactured and sold by his brother Emil. In 1846 he was tried for illegal medical practice, and found guilty; he had refused to take a medical diploma because he said it would destroy his patients' confidence in him!

was editor of the radical journal *Reveil*. The young lawyer who defended him was Gambetta, who made a forceful speech against the imperial regime. Largely as a result of this Gambetta became leader of the Republican Party, and was premier for a brief period in 1881-82. A statue of Baudin was eventually erected by the city government in 1901, the fiftieth anniversary of his death, and was placed behind the Place de la Bastille, on the Avenue Ledru-Rollin [11], close to the place where he died. There was a dispute between the state and the city, triggered by their political differences, over arrangements for the inauguration of the statue. The President of the Republic eventually agreed to attend a ceremony, but declared it to be in honour of the fiftieth anniversary of Baudin's death, not for the dedication of the monument.

Francois Vincent Raspail (1794-1878) was a staunch republican and an advocate of universal suffrage. (4) . Born at Carpentras in the Vaucluse, his family was impoverished because his father, an innkeeper, died when he was two years old. A brilliant student, he was destined for the priesthood, but left his seminary in 1813 to become a teacher; he eventually broke his relationship with the church. In 1815, when *La*

Because of his republicanism he was jailed several times, the first in 1831, and spent a total of eight and a half years in prison. His last imprisonment was in 1848, after his involvement in the declaration of the Second Republic, but on his release in 1853 he was banished from France and spent many years in Belgium. When the Republic was fully established Raspail became a hero and, like Baudin, a French Deputy. His statue, by Morice, was erected in the Jardins Denfert-Rochereau [14] in 1889. The impressive base still stands there and has two bronze bas-reliefs by Morice; one shows Raspail tending an impoverished patient, the other his proclamation of the Second Republic at the Hotel de Ville in 1848.

A bronze statue of Jean-Paul Marat (1743-1793) by Jean Baffier, was erected in the Parc de Buttes Chaumont [19] in 1887 but destroyed in 1942. Marat was born in Boudry, near Neuchatel, now Swiss but then ruled by Prussia. After a period in France he moved to England in 1765, and practised medicine in London, Newcastle upon Tyne and Edinburgh. Although awarded an M.D. by the University of St Andrews in 1775, details of his early medical education and later training are obscure. There is a story that he was jailed for stealing from the

Fig 2 - Georges Clemenceau

Ashmolean Museum at Oxford. On leaving England he became physician to the guard of the Comte d'Artois, later Charles X of France. In 1788, deeply involved in politics, Marat founded a newspaper *L'Ami du Peuple*. In 1792 he was elected a deputy to the National Convention. Curiously, his fame rests on three things: his murder by Charlotte Corday, who stabbed him in his medicinal bath; his skin disease, which explained his presence in the bath, and which has attracted the attention of many medical writers; and his relationship with the Marquis de Sade, whom he never met, but who gave an oration at Marat's funeral (5).

In 1904 a monument to Doctor Auguste Metivier was erected in the XXth arrondissement, in the Square Tenon now renamed as Square Edouard-Vaillant [20]. It was a stone pedestal, with a decorated capital, on which stood a bronze bust of the doctor. Metivier was a local physician, who had worked at the hospital Tenon, and a former town councillor of the arrondissement. The sculptor was Mathurin Moreau (1822-1912) who, late in his life, was Mayor of the arrondissement. The bronze was removed in 1942, the pedestal several years later. Metivier is also remembered by Rue Auguste-Metivier, and by Place Auguste-Metivier at the junction of the Avenue Gambetta and the Avenue de la Republique.

#### **Claude Bernard restored.**

The first statue replaced after the war was that of Claude Bernard (1813-1878), arguably the greatest of all physiologists. He was a professor at the College de France in Paris. A bronze statue by Guillaume was erected outside the College in 1886 [5]. Its inauguration was disrupted by the Anti-Vivisection League because a dog, representing an experimental animal, protruded behind the figure of the physiologist. The bronze was removed in 1942. A new stone statue (fig 1) by Couveignes was placed on the same site in 1946 (without the dog!).



#### **Paul Bert and Horace Wells**

In 1910, an unusual marble monument, by Bertrand Bouteac, was placed in the Square des Etats-Unis [16]; it commemorates Paul Bert and Horace Wells. Paul Bert (1833-1886) was one of Claude Bernard's favourite pupils. He read engineering, law and finally medicine, became a great physiologist, and succeeded Claude Bernard at the College de France. He also dabbled in politics; with the fall of the Napoleonic dynasty Gambetta appointed him to the Prefecture of the North, and he later became Minister of Public Instruction. In 1886 he went to Tonquin in Indo-China as Resident General; he died of dysentery in Hanoi soon after his arrival. As a physiologist he recognized that oxygen lack caused altitude sickness, and pioneered the construction of decompression chambers. He wrote a classic book *La Pression Barometrique* (6) which was translated in World War 2 and used by research workers in the field of aviation medicine (7). There is a statue of Paul Bert on a bridge over the river at Auxerre sur Yonne where he was born.

- Fig 3 - Baron Dominique Jean Larrey

Horace Wells (1814-1848) was the American dentist involved in the notorious dispute over the discovery of surgical anaesthesia. In 1848 the Paris Medical Society elected Wells an honorary member, considering that he deserved the honour of having first discovered and successfully applied the use of vapours and gases whereby surgical operations could be performed without pain (8). Wells did not deserve this recognition; in 1850 the French Academy of Sciences gave the credit equally to Morton and Jackson. Under the circumstances the inclusion of Wells in a monument to Paul Bert in 1910 seems a curious juxtaposition.

### Berlioz replaced

In 1886 a bronze statue of Hector Berlioz, by Alfred Lenoir, was placed in the Square Berlioz [9]. It was destroyed in 1942, and replaced by a new stone statue by Saupique in 1948. Berlioz, whose father was a physician, was a medical student at the Hopital de la Pitie-Salpetriere, but did not qualify. After three years of study he abandoned medicine in 1825 and entered the Paris Conservatory as a student of composition.

### Some monuments survived World War 2.

Of the monuments to doctors which survived the cull in 1942 one, that of Capitan, was chosen for preservation; Clemenceau's statue was on a provisional list. Pinel's statue was saved because it had a low priority for destruction. The statues of the Larreys and of Bichat were not listed originally, presumably because they were not situated in 'public places or administrative locales'. Others were spared because they were of marble or stone.

Joseph Louis Capitan (1854-1929) was a pupil in the laboratory of Claude Bernard in 1874, and an interne in the Hopital de Paris in 1878. He became chief of Clinical Medicine of the Germain See of the Hotel Dieu, was a consultant at La Pitie from 1894, and in 1898



became secretary of the Societe de Biologie. However, he was commemorated mainly because of his work in the fields of pre-history and prehistoric anthropology, in which he was a pupil of de Mortillet. In 1908 he was appointed to the chair in American antiquities at the College de France. His bust, placed in about 1930, can still be found in the Square des Arenes de Lutece [4]. It is a small bust and would not have yielded much in terms of non-ferrous metals!

### Clemenceau

Georges Clemenceau (1841 -1929) was twice premier of France. Trained as a doctor, his republicanism as a young man was in conflict with the government of Napoleon III and he spent several years in the United States working as a journalist and teacher. He returned to France in 1869, and became mayor of Montmartre a year later. His first period as premier was from 1906 to 1909, the second from 1917 to 1920. His statue by Francois Cogne, erected in 1932, stands in the Place Georges Clemenceau [8] near the Seine (fig 2). Despite his anti-

German stance some years earlier Clemenceau was accused of leniency towards the Germans after the first World War; this may have been a factor in the sparing of his statue.

Clemenceau came from a medical family. His father and grandfather were doctors, as were their forebears as far back as the sixteenth century. His son, Michel, did not follow in their footsteps. One of his daughters had a son, Rene Jacquemaire, also known as Jacquemaire-Clemenceau (1894-1931). Encouraged by his grandfather, Rene entered the medical school in Paris. But in 1914 he enlisted in the army and was sent to Verdun, where he was a corporal in an infantry regiment. Mentioned in dispatches several times, he won the Military Medal in October 1915 in an action in which his left elbow was severely injured. Fortunately he recovered without the amputation which was advised, and became a pilot in the later stages of the war. He returned to medical school and became a surgeon. A keen research worker, he studied the potential role of bacteriophage fortreating infections. Tragically, in 1931, in the course of his research, he suffered what appeared to be a minor injury, presumably with an infected instrument, and died as a result. A bronze bust of Rene was erected in July 1936 in the Rue Jacquemaire-Clemenceau[15]. It was removed during the war. In that street there is now only a plaque '*au Docteur Rene Jacquemaire, martyr de la science*'.

Larrey; father and son.

Napoleon's chief surgeon, Baron Dominique Jean Larrey (1766-1842), came from a poor family in the village of Beaudeau in the high Pyrenees. He studied medicine in Toulouse and Paris, then joined the Navy. In 1792, when Louis XVI still reigned, he went with the army on the Rhine campaign, where he made his name by introducing the system of *Ambulances Volantes* (to bring the injured back from the front line for surgery). His surgical fame rested on his

advocacy of immediate amputation for severe limb wounds. Larrey served with Napoleon in Egypt, and on many of the great campaigns - Austerlitz, the Peninsular wars, and the advance on Moscow. He wanted to go with Napoleon to Elba, but was told that his place was with the Army. He re-joined Napoleon on his return, and was present at Waterloo. In 1850 his statue, by David D'Angers (fig 3), was erected at the Val de Grace, the French military hospital [5]. In his will, Napoleon said of Larrey-«he is the most virtuous, the most upright man I have ever known». Larrey died in 1842. His body lies in the Pere Lachaise cemetery, but his heart rests in the Saint Anne chapel at Val de Grace.

Larrey's son, Baron Hippolyte Larrey (1808-1895), followed in his father's footsteps as a military surgeon (9). His father's influence procured his admission, at an early age, into the medical department of the army. He was a Chirurgien-eleve in 1829 and an Aide-major in 1832, the year he received his medical degree in Paris. That was the year of the cholera epidemic, and Hippolyte was placed in charge of the cholera wards at the Pitie hospital. He then saw active active service, earning his first decoration at the Siege of Antwerp. In 1835 he obtained the post of Professeur-agrege (de Chirurgie) at the Val-de-Grace, and became professor of Surgical Pathology there in 1841, exchanging the chair for that of Clinical Surgery in 1850. In 1858 he was appointed Inspector of the Army Sanitary Service, and a year later surgeon-in-chief with the army in Italy, where he was noted for his courage. He also distinguished himself by organising the transport of the wounded by rail, a move which was an innovation at the time and of particular interest in view of his father's introduction of the *Ambulances Volantes*.

After his retirement, at the fall of the Empire, Hippolyte was elected as Deputy for Bagneres de Bigorre in 1877, but did not seek re-election in 1881. He wrote a book, '*Madame Mere*', about the mother of Napoleon I. Hippolyte's



• Fig 4 - Baron Hippolyte Larrey

statue, by Falguiere (fig 4), was erected in 1899 in the hospital garden of the Val de Grace [5]. To the best of my knowledge the statues of the Larreys, and those of William Worrall Mayo and his sons Charlie and Will, in Rochester, Minnesota, are the only ones commemorating doctors who were father and son(s).

### Philippe Pinel and others

Outside the Salpetriere in Paris, in the Square Marie Curie [13], is the statue of Philippe Pinel (1745-1826) by Ludowig Durand, erected in 1885. It was scheduled for removal in 1942 but fortunately survived. Pinel devoted himself to psychiatry, having been profoundly affected by the illness of a friend with a serious mental disorder. His main claim to fame is that, in 1796, he was permitted by the National Assembly to remove the chains from insane patients at the Bicetre hospital, so revolutionizing the treatment of the mentally ill.

Some monuments, like that of Bert and Wells, were left in place because they were carved in

stone. In the Square Ferdinand-Brunot [14] there is a marble statue of Michael Servetus (1511 -1553), by Jean Baffier, erected in 1908. A Spanish theologian and physician, born in Tudela, he worked mainly in France and Switzerland. He denied the Trinity and the divinity of Christ. He escaped the Inquisition, but was eventually burnt by Calvin at Geneva on the charge of heresy. He was one of the first to recognise that the inter-ventricular septum was not perforated, and to describe the pulmonary circulation. However, this important anatomical work attracted little attention because it was published as a short statement in a theological work.

At the junction of the Avenue Denfert-Rochereau and the Avenue de l'Observatoire [14] there is a marble bust of Theophile Roussel (1816-1903), by Champeil, erected in 1913. Roussel, the son and grandson of doctors, was born on 28th July 1816 at Saint-Chely-d'Apcher in the Lozere. In 1840 he interned, with Claude Bernard, at the Salpetriere. The following year, while at the hospital Saint-Louis, he recognized a case of pellagra. He had difficulty in getting this diagnosis accepted, as pellagra was known to occur in Italy and Spain, but was not considered to exist in France. He spent much of his life studying pellagra. In late 1847 and early 1848, at the request of the Department of Agriculture, he travelled in south west France and Spain to study the condition. In 1866 he wrote a treatise on pellagra and pseudo-pellagra for which he was awarded a prize of 5000 francs. During his trip he also became interested in a number of occupational diseases. He was very much a 'modern' physician, basing his work on the application of applied science.

In 1849, at the age of thirty three, Roussel was elected to represent the Lozere at the legislative assembly. However, after the coup d'etat by Louis Napoleon in 1851 Roussel, a convinced republican, retired from political life and went back to Lozere where he practised



• Fig 5 - Stephane Joseph Tarnier

Antoine-Laurent de Jussieu (1748-1836), a famous botanist who was also a doctor of medicine (11).

Stephane Joseph Tarnier (1828-1897) was a distinguished obstetrician. His axis-traction forceps, introduced in 1877, extended the usefulness of obstetrical forceps and have survived with little modification to the present day. He also invented an incubator for babies. A large bas-relief of Tarnier, by Denys Puech (fig 5), was erected in 1905 at le Pavillon Tarnier on the corner of the Rue D'Assas (number 89) and Avenue de L'Observatoire [6]. It depicts Tarnier and his incubator with a mother and her new born child who was saved by the use of the incubator. Although the money raised initially for this monument seemed adequate more had to be raised to reinforce its foundations which were threatened by underlying catacombs. (2)

medicine. With the proclamation of the Third Republic, in 1871, Roussel was again elected as the representative for Lozere. He engaged in intense political activity, campaigned against alcoholism, and worked for the improvement of prisons. More importantly he opposed the exploitation of children and introduced a law (later known as the '*loi Roussel*') designed to protect children and improve their health (10).

Louis Daubenton (1716-1799) was diverted from his medical career when George Buffon asked him to prepare anatomical descriptions for a major work on natural history. He became a distinguished zoologist, botanist and mineralogist. In 1793 he became the first director of the Museum of Natural History (the Jardin des Plantes). His stone statue, by Eugene-Louis Godin, stands in front of the bird house in the Jardin d'Acclimatation [16] where it was erected in 1864.(2) . Daubenton is shown holding a sheep, to commemorate his introduction to France of Merino sheep in order to improve the quality of French wool. His tomb can be found in the Jardin des Plantes [5] where, in the Galerie de Mineralogie, there is a statue of

### Medical cinematography

Etienne Jules Marey (1830-1904) was born in Beaune. As a boy he was interested in engineering but his father persuaded him to read medicine. He studied in Paris and was an interne at the Hopital Cochin, but then turned his attention to mechanical aspects of physiology. He produced a practical sphygmograph, by modifying the clumsy instrument devised by Vierordt, and so made it possible to make accurate recordings of the arterial pulse. With Chauveau he established that the apex beat was due to ventricular contraction. In 1882, aged 52, he invented cinematography in order to study the movements involved in locomotion. In 1881 the Municipal Council of Paris gave him a site in the Pare des Princes in the Bois de Boulogne to allow him to further his work; in 1901 a building, later called the Institute Marey, was raised there to honour him (12). A stone bas-relief, by the sculptor Paul Charles Auban, was erected in the grounds of the institute in 1913; it was moved some years ago to the tennis stadium at Stade Roland Garros [16].

- Fig 6 - Baron Guillaume Dupuytren

## Baron Dupuytren

In the courtyard of the Hotel Dieu [4] there is a stone statue by Max Barneaud (fig 6) of the great surgeon Baron Guillaume Dupuytren (1777-1835). Although erected in 1946, just after the war, I have been unable to find any evidence that it replaced an earlier monument at the Hotel Dieu. However, in 1869, a bronze statue of Dupuytren was erected at Pierre Buffiere, his birthplace near Limoges. At its inauguration the main address was given by Hippolyte Larrey, whose father, Dominique Jean Larrey (see above), delivered the eulogy at Dupuytren's funeral. This statue was removed during the German occupation; it was replaced in 1977 by a new stone monument incorporating a medallion bearing Dupuytren's features (13). On a more macabre note, there is, in the Hotel Dieu, a bust of Doctor Joseph Ignace Guillotin (1738-1814), inventor of the guillotine, the advantages of which were presented to the Academy of Surgery in 1791!

## Vulpian

Rue Antoine-Dubois [6] runs between the Rue de l'Ecole de Medecine and Rue Monsieur le Prince. There stands the marble statue of Edmeond Felix Alfred Vulpian (1826-1887) erected in July 1928 (fig 6). Its sculptor, Paul Richer, was also a physician. Alfred Vulpian was born in Paris. His father, a barrister, died when Alfred was only three years old. Friends helped with his education, and he proved a brilliant scholar. After a brief apprenticeship as a carpenter he became an assistant in the laboratory of the famous neurophysiologist Pierre Flourens, who allowed him to combine his work with the study of medicine, which he commenced in 1845. He was an interne in the hospitals in 1849, and in 1850 received a medal for his devoted work during a cholera epidemic. He passed his doctoral thesis in 1853, and the competitive examination for the hospitals in 1857. He had a distinguished career as a physician at,



successively, la Salpetriere, la Pitie, la Charite and l'Hotel Dieu. He was Professor of Pathological Anatomy in the Faculty of Medicine, before becoming its Dean.

In 1856 Vulpian noted that the adrenal medulla stained green with perchloride of iron, as did blood in adrenal veins (but not elsewhere in the body), and stressed that the substance thus stained (adrenaline) seemed connected with the function of the adrenals. He thus produced the first biochemical confirmation of hormonal secretion. Between 1860 and 1870 Vulpian worked with Charcot in his famous studies on '*sclerose en plaques*' (multiple sclerosis). The statue of Vulpian, like that of Dupuytren, is often painted by the medical students of Paris - one form of continuing recognition!

## Xavier Bichat

In the courtyard at number 12 rue de l'Ecole de Medecine [6] (once the Ancienne Faculte de Medecine, now the administrative centre of the Universite Rene Descartes - Paris V) there is a handsome statue of Marie Francois Xavier Bichat (1771-1802) by the famous sculptor David



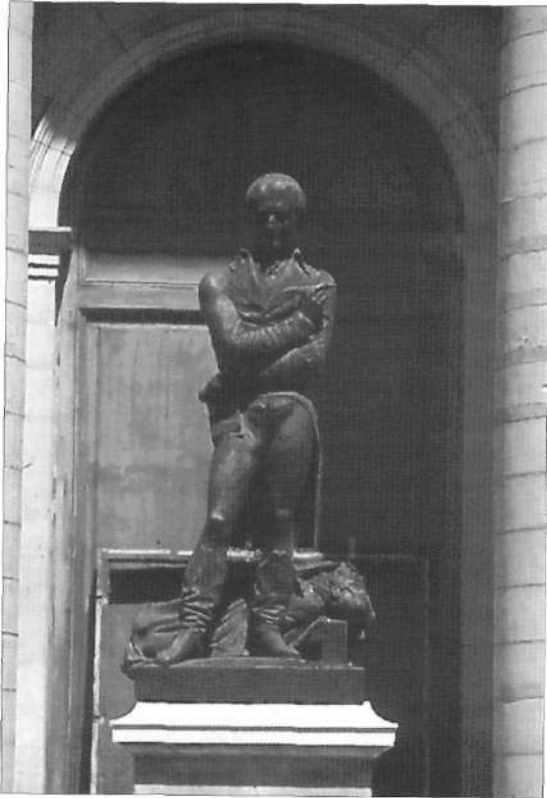


Fig 7 - Xavier Bichat - at 12 rue de l'Ecole de Medecine

D'Angers (fig 7); it was placed there in 1857. High on the walls of this courtyard there are also medallions commemorating Ambroise Pare, Mareschal, Petit, Peyronie, and Pitard. Another statue of Bichat, also by David D'Angers, was erected earlier (in 1843) in Bourg en Bresse, near the towns of Thoirette, where Bichat was born, and of Poncin, where he was raised. Although he was only 31 when he died, Bichat's work had a profound influence on medicine and biology. Without a microscope he identified and described twenty-one tissues of the body, characterizing them with terms such as nervous, vascular, mucous and serous tissues. On this basis he introduced the important concept that a disease of a tissue is essentially the same regardless of the organ in which it is found.

There is a twist to the story of Bichat's statues. Osier's book *The Evolution of Modern Medicine* (14), published after his death, has an illustration of a statue in which a doctor's hand is examining a child's heart. Beneath it is the name 'Laennec'. Dr Alex Sakula, an expert on the iconography of Laennec, assured me that Osier was wrong in suggesting that the statue was of

Laennec. In the summer of 1997 Dr Marc Weksler and I found an almost identical statue in the cloisters of what was once the Ancienne Ecole Pratique de Medecine (now part of the Universite de Pierre et Marie Curie, Paris-VI-Jussieu). The building, at 15-21 rue de l'Ecole de Medecine [6], across the street from the courtyard at number 12, is on the site of the old convent of the Cordeliers. The statue, dated 1841, was signed by David D'Angers, but without indication of its subject (fig 8). Following enquiries, Professor Paul de Saint Maure and Professor Patrick Conan assured me that it was a statue of Bichat. Years before I had photographed the Bichat statue at Bourg en Bresse. When, belatedly, I looked at my slides I found that the Bourg statue was almost identical to the one in the cloisters. As David D'Angers himself stated that he had made only two statues of Bichat.(2) it seems clear that the statue of 1841 was a plaster model for the one erected in Bourg en Bresse in 1843.

#### Laennec's bas relief

There is a small public monument to Laennec in Paris; a bas-relief by Rene Quillivic, executed in 1926. It is situated in the Square Chevtchenko [6], at the corner of Boulevard Saint-Germain and Rue des Saints Peres, in a little garden outside what used to be the chapel of the Charite hospital; the chapel is now an Ukrainian church, St Vladimir-le-Grand. There is a statue of Laennec near the cathedral at Quimper in Brittany.

#### One of the last great bloodletters

Close to the model of the Bichat statue in the cloisters at 15-21 rue de l'Ecole de Medecine [6] is another statue, that of Jean Baptiste Bouillaud (1796-1881), one of the last great blood-letters with leeches. Bouillaud made the important connection between rheumatic fever and endocarditis. It is also claimed that he was the first to localize the speech centre in the middle of



Fig 8 - Bichat - at 15-21 rue de l'Ecole de Medecine

the left cerebral hemisphere (but see Broca above). Among his patients were his teacher Dupuytren, and Napoleon III. The finish on this statue is similar to that on his neighbour Bichat; I suspect that Bouillaud's statue may also be a model for another work, possibly a statue at Angoulême which I have not yet visited.

#### Acknowledgment

This paper is based on a communication given to the Annual Meeting of the American Osier Society held in Toronto in May 1998. I am grateful to June Hargrove; her wonderful book *The Statues of Paris* introduced me to several statues with which I was not already familiar - particularly some removed in 1942. Professor Jean-Charles Sournia provided the location of many monuments. Professor Mark Weksler, an American who summers in Paris, spent a day driving me around so that I could photograph the new finds. Without him I would not have found the statues of Bichat and Bouillaud at 15-21 rue de l'Ecole de Medecine. He also helped in other ways. Thanks to the help of Professors Paul de Saint Maure and Patrick Conan (and of Isobel Porteret, who was an intermediary) I could confirm Alex Sakula's statement that Osier was in error when he identified Bichat's statue as one of 'Laennec'. Isobel Porteret also found the location of Daubenton's statue in the Jardin d'Acclimatation. The staff of the Archives de l'Assistance Publique des Hopitaux de Paris were most helpful, as was Catherine Allais of the publishers Belin. I thank Susan Kosmin-Barr for locating the statue of Hippolyte Larrey.

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#### Biography

Neil McIntyre is a Professor of Medicine with a particular interest in the liver and its diseases. He is a keen medical historian, a past president of the Osier Club of London and a member of the American Osier Society and the International Society for the History of Medicine. He also has a major interest in medical education.

**Compte-rendu  
du Conseil d'Administration,  
du Bureau  
et de l'Assemblée Générale  
de la S.I.H.M.,  
Tunis - Carthage  
5, 7 et 10 septembre 1998**

**Minutes of  
the Administrative Council,  
the Board  
and the General Assembly  
of the I.S.H.M.,  
Tunis - Carthage  
5, 7 and 10 September 1998**

**Sous la présidence  
du Professeur Y.V. O'Neill**

Présents à la réunion du Conseil d'Administration du 05.09.98 :

Y.V.O'Neill (Présidente), J. Cule (Past-Président), J.P. Tricot (Secrétaire-Général), A. Lellouch (Secrétaire-général adjoint), C.Burns (Trésorier), R. Van Hee (Trésorier), S. Marketos (Vice-Président), S. Ammar (Vice-Président), A. Ségal (Vice-Président), A. Mussajo-Somma (Vice-Président), R. Price, S. Sakai, G. Ferngren et J.C. Sournia (Conseillers).

Les délégués nationaux : A. Skrobonja (Croatie), R. Mayer (Suisse), A. Diamandopoulos (Grèce), S. Kottek (Israël), K. El Hadidy (Egypte), F. Vescia (Etas-Unis), A. Macbeth (Canada), T. Appelboom (Belgique), G. Zanchin (Italie), J.P. Lisitsyn (Russie), R. Stengella (Géorgie), J. Blair (Grande-Bretagne), N. Marcu (Roumanie).

Présents à la réunion du Bureau du 07.09.98 :

Y.V. O'Neill, J. Cule, A. Lellouch, E. Lomax, C. Burns, R. Van Hee, J.C. Sournia, S. Marketos, G. Ferngren, S. Kottek, J.P. Tricot.

Présents à l'Assemblée générale du 10.09.98 :  
79 membres de 28 pays différents.

**1. Approbation du procès-verbal  
du Conseil d'Administration précédent  
(Paris, 28 juin 1997)**

Le procès-verbal, tel que repris de la p.113 à la p. 118 de *Vesalius*, n°III,2,1997 est approuvé à l'unanimité.

**Under the presidency  
of Professor Y. V. O'Neill**

Present at the Administrative Council meeting of 05.09.98 :

Y.V.O'Neill (President), J. Cule (Past-President), J.P. Tricot (General-Secretary), A. Lellouch (Assistant General Secretary), C.Burns (Treasurer), R. Van Hee (Treasurer), S. Marketos (Vice-President), S. Ammar (Vice-President), A. Segal (Vice-President), A. Mussajo-Somma (Vice-President), R. Price, S. Sakai, G. Ferngren and J.C. Sournia (Councillors).

The National delegates: A. Skrobonja (Croatia), R. Mayer (Switzerland), A. Diamandopoulos (Greece), S. Kottek (Israel), K. El Hadidy (Egypt), F. Vescia (United States), A. Macbeth (Canada), T. Appelboom (Belgium), G. Zanchin (Italy), J.P. Lisitsyn (Russia), R. Stengella (Georgia), J. Blair (Great Britain), N. Marcu (Roumania).

Present at the meeting of the Board of 07.09.98:

Y.V. O'Neill, J. Cule, A. Lellouch, E. Lomax, C. Burns, R. Van Hee, J.C. Sournia, S. Marketos, G. Ferngren, S. Kottek, J.P. Tricot.

Present at the General Assembly of 10.09.98  
79 members from 28 different countries

**1. Approval of the minutes  
of the preceding Administrative Council  
(Paris, 28 June 1997)**

The minutes as recorded on pages 113 to 118 of *Vesalius* nr III, 2, 1997 were approved unanimously.

## 2. Rapport de la commission de vérification de la validité des mandats des délégués nationaux

La commission (Dr A. Lellouch et Mr R. Price) ne formule aucune remarque

## 2. Report of the commission for the verification of the validity of the national delegates' mandates

The commission (Dr A. Lellouch and Mr R. Price) signified its approval

## 3. Nouveaux délégués nationaux :

Espagne : F.E. Gonzalez  
Grande-Bretagne : J. Blair

## 3. New national delegates

Spain : F.E. Gonzalez  
Great-Britain : J. Blair

## 4. Discours du Président

## 4. Presidential address

What a wonderful table of riches we have enjoyed during this first Congress in the land of the Maghreb. Together we have shared the splendours and wonders of the land of Hannibal, the expert Carthagian general whom Napoleon termed "the world's greatest captain". Tunis also reminds us that it was the cradle of the Great Latin Fathers, Tertullian and Augustine. But most of all we have learned about the eminent Arabo-islamic physicians such as Ibn al Jazzar, whose exemplary life his great works some of which such as the *viaticum peregrinantis*, having been translated by Constantine the African - another native of the Maghreb - became the important sources that for the development of medieval European medicine.

This Congress has brought together historians, physicians, surgeons, specialists in public health and many others interested in the history of medicine from five continents and over 60 nations. Together we have shared our experiences and findings about the history of medicine and its importance to the training of today's students. But even more important, I believe that Tunis has sparked in all of us the awareness of the great revolution in which all of us are participating.

Historians as well as other professionals are notoriously wary of the word "revolution". Unlike journalists who find revolutions in every twist and turn of political, intellectual, and technological innovations, most of us like to believe that our revolutions last more than a month or a year, some of my colleagues, particularly older historians like myself apply the word only to changes that dramatically alter the course of entire centuries.

My national prejudice makes me deny the contention that the American Revolution was only a colonial revolt, and I must argue that it may qualify as a genuine revolution. I believe moreover that even the most cautious of us will agree, that that the French Revolution was a genuine one. In recent years two new candidates have entered into the pantheon of revolutions, the scientific revolution of the sixteenth and seventeenth and the industrial revolution of the nineteenth century.

Few of us would deny that the Harveian synthesis predicated on the anatomical findings of Vesalius and Fabricius which transformed our concept of human physiology can qualify as a REAL revolution. Nor would many object to conferring the same title on the technological changes in transportation, industrial production and use of labor that characterize the changes in society and even academic disciplines which we know now as the industrial revolution.

And having agreed on that point, most of us are prepared to accept that we are now witnessing another revolution, a post industrial revolution, the electronic revolution. Like all revolutions, this one has ramifications far beyond its immediate context for it is producing changes not only in the way materials are distributed, but in the very nature of learning and education.

Desks in our universities and colleges are being transformed into "workstations". Some of our students and scholars are finding themselves consulting the Internet more often than books. Something consequential

is happening, much more than merely a new technological innovation. In fact the last such innovation we experienced was the invention of the printing press over half a millenium ago. That invention had momentous consequences, which unfortunately time does not permit us to adequately explore here, but among the ones I should like to focus on here are the flight from quality to quantity and the resulting democratization of learning.

About 1440 when Guttenberg was perfecting his printing press, the Vatican Library's catalogue listed 2,500 volumes. Today thanks to Guttenberg's efforts many scholars have that many bookds or more in their home or office. More significant than the quantum leap in the number of books now available to each individual or library is the democratizing effect of that change. Books were no longer the provence of the elite. The relative ease of and cheapness of printing transfered the selection and production of books from clerics and scribes to artisans and merchants who were responsible only to the dictates of the consumer and the market.

Now with the electronic revolution we are taking that democratization a giant step forward; The computer can call up a variety of catalogues, data bases, books, journals, archives and even manuscript collections from other libraries. Moreover, it can make those books, journals, databases "talk to each other". One can type in a request for information and the computer will assemble the sources, synthesize them and present the results on your screen.

Moreover, it can make one not only the recipient of this information but the creator of it. You are an active partner in this interactive process. Your thoughts on any subject, your reflexions, impressions, opinions can find their way into the Internet by means of a "home page". So that although the onslaught of this modern technology may offend and terrify some of our members, and I include myself in this group, it is essential that we learn immediately its advantages not only to our individual members but also to the Society as a whole.

The first of these is that the Society should now be able to communicate with its members virtually instantaneously, so that the Secretariat will have current information about the research interests of its members, be able to compile membership data, and will have the means to communicate these data to the National Delegate with almost no delay. This rapid exchange should produce a more accurate and comprehensive awareness of the Society's fiscal state. It is imperative that we enlist new members, that they pay dues to the Society, and that they receive all of the benefits of Society membership in a prompt and efficient manner. Among the newest of these has been the journal *Vesalius* which has been well reviewed and is increasing in popularity. But if new members who are promised a journal as part of their membership dues, fail to receive it, we can no longer ask for their support. Therefore, it is urgent that we find a way to distribute the journal in a timely manner, and this is surely one of important challenges for the future.

Another such challenge is that as a Society, we post a web-site so that any person in the world who has a modem can learn about the Society, *Vesalius*, the Congresses, and how one can become a member. This means of communication would attract especially young students and scholars, whose support the Society urgently needs if we are to continue into the next century. Several days ago, I showed some of our colleagues how the new technology especially video tapes, can be used in the classroom to excite an interest in medical history among our students. We must also recognize that the electronic revolution can also permit the immediate access to sources for our research by providing answers to questions available by no other means.

Thus the computer and modem can also assist in our research, but however useful this new technology is or becomes, we can rest assured no technological device will ever replace the warm and collegial interchanges we experience at ou bi-yearly conferences, i'm sure that all of you would agree that nothing in our new electronic armamentarium can ever replace the exchanges and friendships we make at international conferences such as this one in Tunis. I would especially like to thank the Tunisian organizing committee and in particular Professor Ammar for providing the warm and gracious atmosphere in which these important exchanges have taken place over this last week. Dr. Burns and I look forward to welcoming all of you to the Congress in the year 2000 to be held in Galveston, Texas which we hope will be able to maintain the intellectual spirit and equal the continued collegiality which characterizes the International Society and its members.

## 5. Rapport du Secrétaire Général

Le secrétaire-général démissionnaire donne un aperçu des huit années durant lesquelles il a été en fonction, de 1990 à 1998. Il a rédigé les procès-verbaux de 9 Conseils d'Administration et de 5 Assemblées générales, sous la présidence du Prof. H. Schadewaldt, du Dr. J. Cule et du Prof. Y. V. O'Neill. Il a édité 3 *Index membrorum* et a introduit le nouveau logo de la Société. Il a représenté la S.I.H.M. dans plusieurs pays lors de diverses manifestations et événements médico-historiques. Il regrette le manque d'intérêt de certains délégués nationaux qui, même lorsque la demande expresse leur est formulée, négligent de le tenir au courant du nombre de membres, de leur nom et des activités au sein de leur section nationale. Le secrétaire-général remercie l'assemblée de la confiance qu'elle lui a témoignée durant ses mandats.

## 6. Rapport des Trésoriers

Situation financière au 01.07.98 :

Comptes courants :	75.910 BEF
	31.639 FF
	4.706 US \$
Compte de dépôt :	50.000 FF

Evolution du nombre de membres en ordre de cotisation :

Nouveau Monde :

1996 = 94, 1997 = 103

Reste du Monde :

1995 = 340, 1996 = 253, 1997 = 229

Les trésoriers font remarquer que le nombre de membres payant leur cotisation diminue lentement, mais que ceci n'est pas lié à l'augmentation de la cotisation nécessitée par la publication de *Vesalius*. De nombreux délégués nationaux négligent de collecter les cotisations à temps. Des *folders* d'information concernant la SIHM seront rédigés par M.R. Price et permettront de recruter de nouveaux membres.

## 5. Report of the General Secretary

The Secretary General who has resigned gave an overview of the eight years from 1990-1998 during which he was in office. He kept the minutes of 9 Administrative Councils and of five General Assemblies under the presidencies of Professor H. Schadewaldt, Doctor J.Cule and Professor Y. O'Neill. He edited three *Index Membrorum* and introduced the new logo of the Society. He represented the I.S.H.M. in several countries during diverse conferences and medical historical events. He regrets the lack of interest of certain national delegates who, even when directly approached neglected to keep an accurate count of the number, and names of their members and of their activities within their national borders. The Secretary-General thanks the General Assembly for the confidence they vested in him during his term of office.

## 6. Treasurer's Report

Financial Situation on July 1, 1998 :

Current Funds :	75.910 BEF
	31.639FF
	4.706 US \$
Depository Funds :	50.000 FF

Number of members according to dues payments

New World :

1996 = 94, 1997 = 103

Rest of the World :

1995 = 340, 1996 = 253, 1997 = 229

The treasurers have observed that the number of members paying their dues diminishes gradually but this is not connected to the dues' rise necessitated by publication of *Vesalius*. Many national delegates neglect to collect the dues on time. Brochures of information concerning the ISHM are to be produced by Mr. R. Price which will permit new members to be recruited.

## 7. Election des nouveaux membres du bureau

A. Lellouch est élu secrétaire général  
J.P. Tricot est élu vice-président  
S. Marketos est élu conseiller

La composition du bureau est la suivante :

Président : Prof. Y. Violé O'Neill (2000)  
Past-Président : Dr J. Cule (2000)  
Secrétaire Général : Dr A. Lellouch (2003)  
Sec. Gén. adjoints : Dr E. Lomax (2002)  
Trésorier : Prof. C. Burns (2002)  
Prof. R. Van Hee (2002)  
Vice Présidents : Dr A. Segal (1999)  
Prof. A. Musajo Somma (2000)  
Prof. S. Ammar (2001)  
Prof. J.P. Tricot (2002)  
Conseillers : Prof. G. Ferngren,  
Prof. S. Kottek, Prof. S. Marketos,  
Dr R. Price, Dr Sakai, Prof. J.C. Sournia,  
Prof. H. Schadewaldt, Dr Thearle

## Ratification des candidatures des nouveaux membres

## 7. Election of new members of the Executive Committee

A. Lellouch is elected Secretary General  
J.P. Tricot is elected Vice President  
S. Marketos is elected Councillor

The composition of the bureau is the following

Président : Prof. Y. Violé O'Neill (2000)  
Past Président : Dr J. Cule (2000)  
Secretary General : Dr A. Lellouch (2003)  
Associate Secretary : Dr E. Lomax (2002)  
Treasurer : Prof. C. Burns (2002)  
Prof. R. Van Hee (2002)  
Vice Présidents : Dr A. Segal (1999)  
Prof. A. Musajo Somma (2000)  
Prof. S. Ammar (2001)  
Prof. J.P. Tricot (2002))  
Councillors : Prof. G. Ferngren,  
Prof. S. Kottek, Prof. S. Marketos,  
Dr R. Price, Dr Sakai, Prof. J.C. Sournia,  
Prof. H. Schadewaldt, Dr Thearle

## Confirmation of new members' applications

### Australie - Australia

Cushing A., Herriot P., Pearn J.

### Argentine - Argentina

Aguero A.L., Bortz J.E., Kohn Loncarica A.G.

### Belgique - Belgium

Asscherickx J., Bauherz G., Gasparon D., Missa J.N., Szafran W.

### Chili - Chile

Artigas R., Campbell A.R., Olivares-Cortes M., Romero R.M.

### Croatie - Croatia

Zeljko D.

### Espagne - Spain

Hernandez J.

### Etats-Unis d'Amérique - United States of America

Basso L., Boisaubin E., Cole T., Duke M., Mohr J.C.,  
Parker B.R., Riddle J., Winkler M.G., Wygant L.

### France

Battin J., Duchatel F.

Grande Bretagne - Great Britain

Berry D., Cameron A., Gréer A.W., Kunzu K., McIntyre N., Thomas A.M.K., Venables T.  
Walker-Smith J.A., Zutshi D.W.

Grèce - Greece

Mayer H.

Pologne - Poland

Towpik E., Waszynski E.

Russie - Russia

Arifoulova L, Kroutov V., Zatravkine S.

Turquie - Turkey

Berna A., Elcioglu O., Gôrkey S.

9. Les Congrès

**Kos-1996 :**

Le bureau de la S.I.H.M. a décidé de publier les abstracts et le texte des interventions principales sous la forme d'un numéro spécial de *Vesalius*. 31 textes sur 248 interventions sont parvenus au Prof. Marketos. Les éditeurs de *Vesalius* seront chargés de faire une sélection des 31 articles qui leur seront envoyés par le Prof. Marketos.

**Carthage-Tunis -1998 :**

Les participants tiennent à remercier le Prof. Ammar, président du Congrès, pour la chaleur de l'accueil tunisien et pour l'organisation de cet événement. Ils ont particulièrement apprécié la traduction simultanée disponible dans les 3 auditoriums pour toutes les communications, sans exception.

**Galveston - 2000 :**

Le Professeur Burns présente la ville de Galveston (Texas) où le congrès aura lieu dans un tout nouveau complexe qui sera inauguré prochainement. Il dispose du support officiel de plusieurs associations historiques et médicales américaines et texanes ainsi que du soutien des autorités académiques de la faculté de médecine de l'Université du Texas. Le formulaire de préinscription sera envoyé début 1999 à tous les membres de la Société.

**Congrès 2002 :**

Deux demandes officielles de candidature ont été introduites d'une part par la Russie et d'autre part par

9. The Congresses

**Kos-1996:**

The Bureau of the ISHM decided to publish the abstracts and the text of the principal papers in a special issue of *Vesalius*. Thirty-one texts out of two hundred forty-eight papers reached Professor Marketos. The editors of *Vesalius* were asked to make a selection of the 32 articles which were sent to Professor Marketos.

**Carthage-Tunis -1998 :**

The participants wish to thank Professor Ammar, President of the Congress for the warmth of the Tunisian welcome and for the organization of this event. They particularly appreciated the simultaneous translation which was available in three languages during all presentations without exception.

**Galveston - 2000 :**

Professor Burns described the city of Galveston (Texas) where the Congress will be held in a completely new complex which will be opened shortly. He has obtained the official support of several American and Texan historical and medical associations as well as the subvention of the academic authorities of the medical faculty of the University of Texas. The pre-registration forms will be sent to all members of the Society at the beginning of 1999.

**Congress 2002 :**

Two official applications for Congress sites have been presented; one by Russia and the other by Turkey.



la Turquie. Des projets plus élaborés sont demandés aux délégations nationales respectives. Une décision définitive sera prise lors du Conseil d'Administration de Paris de juin 1999. Lors des prochains congrès, un supplément égal à la cotisation à la Société sera demandé aux non-membres de la S.I.H.M. qui adhèrent de ce fait automatiquement à la Société et recevrons les numéros de *Vesalius* de l'année en cours.

La proposition d'organiser des symposiums bi-annuels les années impaires a été acceptée.

#### 10. *Vesalius*

Deux numéros normaux seront publiés par an. A partir de 1998, 1 numéro spécial annuel est également prévu (1998: Médecine et judaïsme, 1999 : Congrès de Cos).

Les délégués nationaux disposeront de numéros complémentaires, d'une part pour faire de nouveaux membres, d'autre part destinés aux bibliothèques universitaires. Un tarif réduit sera prévu pour les étudiants (cotisation réduite de moitié). Les éditeurs souhaitent être tenus au courant, par les délégués nationaux, de l'agenda médico-historique de leur pays. D'autre part, les sociétés nationales et locales de chaque pays devraient être présentées. Le "Web-site" de la SIHM mentionnera le contenu de chaque numéro de *Vesalius* et éventuellement des résumés; un formulaire d'inscription à la SIHM y sera joint. La table des matières de chaque numéro de *Vesalius* sera envoyée à l'Index Medicus et au Med-line. Les éditeurs cherchent des sponsors auprès des firmes pharmaceutiques ou des antiquariats de livres pour prendre en charge la production ou les frais d'envoi.

#### 11. *Varia*

Les Professeurs V. Manoliu (U.S.A.) et F.S. Haddad (U.S.A.) sont élus à l'unanimité par l'Assemblée générale en tant que membre d'honneur, et ce pour services rendus à la Société.

Jean-Pierre Tricot  
Secrétaire Général

Additional and precise data have been requested of these national delegations. A definitive decision will be made at the Administrative Council meeting at Paris in June 1999. At the next congress, a supplementary fee equal to the Society's membership dues will be required of non members who will thus automatically become members of the Society and will then receive copies of *Vesalius* for that year.

The proposal of organizing biennial symposia during the years between the Congresses was accepted.

#### 10. *Vesalius*

Normally, two issues a year are published. For 1998 an additional issue is also planned : *Medicine and Judaism*; for 1999: *The Congress at Kos*.

The national delegates will distribute complimentary copies, in order to interest prospective new members, and will ensure that copies reach the university libraries. A reduced dues rate for students is anticipated (half the normal dues). The editors hope to be informed by the national delegates of the medical historical agenda in their countries. Information concerning the national or local societies of each country should be sent to the editors. The Society's «Web-site» should list the contents of each issue of *Vesalius* and eventually list abstracts: a registration sheet of the Society should be mounted. The table of contents of each issue of *Vesalius* will be sent to *Index Medicus* and to *Med-Line*. The editors seek sponsors from pharmaceutical firms or from book sellers to subvene either the publication or the distribution costs of *Vesalius*.

#### 11. *Varia*

Professors V. Manoliu (U.S.A.) and F.S. Haddad (U.S.A.) were unanimously recognized by the Assembly General as honorary members for services rendered to the Society.

Jean-Pierre Tricot  
Secretary General

## ***News from member countries***

## ***Nouvelles des pays membres***

### **Australia**

The editors of *Vesalius* are delighted to receive regular copies of the *Medical History of Australia*, which is the newsletter of the Australian Society of the History of Medicine. In the the President's column of the Third Series 28 : November 1998, Dr Peter M Winterton reveals that "on the 19th and 20th September, 1998 the Australian Society of the History of Medicine held its annual general meeting in Margaret River in the beautiful south west of Western Australia. The meeting was held in conjunction with a medical history meeting organised by Dr James Leavesley on behalf of the AMA (Western Australian branch) Section of Medical History. Dr Leavesley arranged a very balanced enjoyable programme that reflected well the diverse interests of our society".

The President spoke on the medical history and medical times of the Habsburg Emperor Charles V; David Hannah a distinguished Perthes dental practitioner spoke about the history of dental amalgams and the perceived risk to health of the mercury in amalgam; Judith Godden the convenor of the July 1999 Conference of our society spoke with passion about early nursing history relating the trials and tribulations of Nora Barton an early nurse in Sydney. Nora Barton is Judith's great grandmother. The highlight of the afternoon was the B.C. Cohen lecture delivered by the eminent West Australian historian Professor Geoffrey Bolton. The B.C. Cohen Lecture is the premier medical history event in the medical history calendar of the AMA Section on Medical History, named in honour of the late Bertram Clarence Cohen, who was the author of the book *The History of Medicine in Western Australia until 1900*.

Professor Bolton's address 'How Uneasy Lies the Head? The Health of Australian Prime Ministers' was an eloquent expose about the health of the 25 men who have held the highest elected office in the land.

The Saturday evening Conference dinner was held at the world famous Leenwin Winery, set in beautiful Jarrah forest, when after dinner speaker Dr James Leavesley addressed the one hundred and fourteen delegates and spouses on the important subject of the medical contribution to the wine industry. The contribution of medical men is very evident in the Margaret River region.

The Sunday morning had an equally varied programme. Professor John Pearn spoke on the important topic of medical confidentiality; Dr Robert Pearce gave a very concise review of the seven colonial surgeons of the colony of Western Australia between 1829 and 1890, when this state obtained self government and the position of colonial surgeon lapsed. Dr Harry Oxer, an anaesthetist involved in running the Hyperbaric Oxygen Chamber at Fremantle Hospital delivered an exciting paper in the rescue of Tony Bullimore from the Southern Ocean in January 1997 and his subsequent treatment for cold injury in the hyperbaric chamber. Dr Oxer quoted interesting ancient literature on the subject reminding everyone that current health problems often have a long history. The address by the society's treasurer Geoffrey Miller in the history of the development of patent medicines was excellent. The final address by Dr Geoffrey Lilburne was a vivid display of the medical men who have appeared in the «Spy Cartoons» of the magazine *Vanity fair*.

We learn that *The Proceedings of the Darwin Conference* is in press, containing some fifty papers in 450 pages. The President felt (as is now being universally recognised) that the time has come to carefully consider whether in the future all papers that are submitted at a conference of the society can be published in full. Dr Judith Godden is organising the 6th Biennial Conference to be held in Sydney in July 1999. Dr Brian Fotheringham is planning the 2001 Conference in Adelaide. The society is also considering the possibilities of a web site.

The editorial committee of *Vesalius* shares a fellow concern with the Australian society ' that new members are needed in order to make the Bulletin of the Society more economic, and the need to receive sponsorship for the journal was emphasised, which highlights the importance of the fact that if every member our society can find one other person to become a member, we would be in even a better position.

Members of the ISHM take note !

*John Cule*

## Belgique

Bruxelles a le privilège d'avoir sur son territoire, l'un des rares musées de radiologie. Accessible au public depuis 1990, l'originalité de ce musée est d'être parfaitement intégré au sein d'un service de radiologie en activité.

«Celui qui se moque du passé, n'est pas digne du présent». Par cette devise, le musée veut également mettre en valeur ce que nos aînés ont réalisé en Belgique.

Des affiches didactiques racontent les applications médicales des rayons X: de la radiologie classique, en passant par la radiographie digitale et la tomographie calculée, pour aboutir à la radiographie interventionnelle, la résonance magnétique et l'échographie.

Plusieurs reconstitutions historiques de salles agrémentent les lieux: le laboratoire du Pr Röntgen (1895) le cabinet du Dr Henrard (1910), un des pionniers de la radiologie en Belgique, un cabinet radiologique pendant l'entre-deux-guerres, l'antenne radiologique parachutée sur Bastogne (décembre 1944), une salle de radiologie des "golden sixties", le premier tomographe calculé (CT) installé sur le

continent européen... Elles ne sont pas un regard sur le passé... mais proposent une vision remplie d'espoir sur l'avenir. Des documents attestent que les techniques d'examen aux rayons X servent, non seulement la médecine, mais aussi la science, la paléontologie, l'expertise des oeuvres d'art, la sécurité des passagers des voies aériennes...

Le musée, situé rue Bruyn 2 dans l'Hôpital Militaire Reine Astrid à 1120 Bruxelles, est accessible gratuitement pendant les heures de consultation. Tel. #32-2-264.40.97, Fax: # 32-2-264.40.98. WEB SITE: <http://www.smd.be> / musée

*R. Van Tiggelen*

*Conservateur*

*Musée de la Radiologie, Bruxelles*

## Canada

La Société canadienne d'histoire de la médecine/The Canadian Society for the History of Medicine began as a purely local organization in Québec City, the capital of the preponderantly French-speaking Canadian province of the same name, in 1950. It was, however, anticipated that in time it would become a nationwide organization and application was made for a national charter in 1973. The Canadian Society hosted the first International Congress to be held outside Europe in 1976.

In 1998 the Society has a membership of 269 members; publishes its own journal, the *Canadian Bulletin of Medical History*, which is issued twice yearly; and sponsors a three day annual meeting held, traditionally, at the end of May or early June. The Society is one of some 80 Canadian societies, broadly classified as representing the humanities, which meet in university centres during a two week period each year.

The 1998 meeting was held at the University of Ottawa, in the national capital, on May 29 to 31, under the presidency of Dr. T.J. "Jock" Murray. For the first time the meeting was sponsored jointly with the Canadian Society for the History of Nursing. Presentations are welcome in either English or French. The Society has resisted the introduction of multiple concurrent sessions and, in 1998, accommodated 31 papers during the course of 3 days.

The Associated Medical Services (AMS) - Paterson Lecture is the highlight of the meeting. It is supported financially by AMS through the Hannah Institute for the History of Medicine and honours Dr. G.R. "Pat" Paterson, the first executive director of the Hannah Institute and a past-president of the Society. The 1998 lecturer was Dr. Susan Reverby, Wellesley College, Cambridge, Massachusetts, U.S.A. whose title was *"Whose Clinical Trial ? The Public Health Service. Tuskegee and Nurse Rivers' Dilemma"*.

National history of medicine meetings are also held in relation to the Annual Meeting of the Royal College of Physicians and Surgeons of Canada and, in addition, most major Canadian cities with medical schools have active history of medicine clubs. These will be highlighted in future news items.

*R. A. Macbeth, MD  
National delegate, Canada*

## Latvia

The exhibition "Beautifying the Body" at the Paul Stradin Museum of the History of Medicine in Riga (Latvia)

Referring to the present fashionable tenden-

cies of tattooing and piercing the body in various places as well as body painting, the Paul Stradin Museum of the History of Medicine in co-operation with specialists from Netherlands are working at a new exhibition «Beautifying the Body». Its aim is to acquaint the visitors of the museum with the above mentioned manipulations, as well as with the history of artificial body deformation in various countries (deformation of the foot in China, deformation of the skull in Alan tribes etc.)

Tattooing has always aroused conflicting reactions among the population - on the one hand interest, surprise, respect, while on the other hand - misunderstanding and repulsion. Modern western tattooing became very popular among young people in East Europe. Tattooing may be carried out for medical purposes.

The new exhibition will present modern tattooing including examples belonging to certain social groups of people - rockers, sailors, veterans of War etc. We will also demonstrate instruments used for tattooing and other special equipment borrowed from the Riga tattooing studios.

On the other hand our task is to warn visitors that tattooing is surgical intervention in the body, where aseptic and antiseptic activities are needed and unqualified interference may cause problems. In that respect we co-operate with plastic surgical clinics.

The exhibition is planned to open on January 28, 1999. It will be working for 3 following months. During the exhibition many special events and activities will be carried out.

*Juris Salaks  
National delegate, Latvia*

## ***Places the medical historian should visit Endroits a visiter par les historiens de la medecine***

### ***A place to visit in Jerusalem***

#### ***The Chagall Windows in the Hadassah Hospital***

Hadassah Hospital is the largest hospital in Jerusalem. It is famous not only for its well-trained staff but for its world-famous Chagall Windows. When the Hadasah organization (The Women's Zionist Organization of America) approached the Russian-born Jewish painter Marc Chagall in 1959 to design the new hospital's stained-glass windows for its synagogue, the artist was delighted to do so and subsequently donated his work.

The Synagogue of the Hadassah-Hebrew University Medical Center was dedicated on February 6th, 1962, as a part of Hadassah's Golden Anniversary Celebration. The floors and interior walls are made of Jerusalem stone, and the synagogue is illuminated both by a hanging lantern and by the sunlight which streams through the magnificent Chagall creation. «My hope is that I hereby extend my hand to seekers of culture, to poets and to artists among the neighbouring peoples», said Marc Chagall at the dedication ceremony.

The creation of the Windows was a labour of love for Chagall and his assistant, Charles Marq. They worked on the project for two years. Marq developed a special process of veneering pigment on glass which allowed Chagall to use as many as three colours on a single uninterrupted pane, rather than being confined to the traditional technique of separating each coloured pane by lead strips.

Taking his inspiration from Jacob's deathbed blessing on his sons (*Genesis* 49), and, to a lesser extent, from Moses' blessing on the Twelve Tribes of Israel (*Deuteronomy* 33), Chagall had created 12 vivid windows in primary colors to represent the Twelve Tribes. The Windows are populated with floating figures of animals, fish, flowers and decorated by numerous Jewish and

esoteric symbols. To understand the significance of the windows fully, you must realize Chagall's deep sense of identification with the whole of Jewish history, its tragedies and victories, as well as his own personal background in the *shtetl* of Vitebsk, where he was born and grew up.

«All the time I was working», he said, «I felt my father and my mother were looking over my shoulder, and behind them were Jews, millions of other vanished Jews of yesterday and a thousand years ago». The dominant colours used in each window are inspired by the blessings of Jacob and Moses as well as those of the breastplate of the High Priest described in *Exodus* 28:15, which was coloured gold, blue, scarlet and purple, and contained 12 gems including jasper, emeralds, turquoise, sapphire, blue jacinth, agate, lapis lazuli and beryl.

Then, at the very beginning of the Six-Day War of 1967, the French expert who had installed the windows was hurriedly flown in at the request of hospital officials. He was driven up to Jerusalem to approve the method proposed for removing the windows and storing them until the crisis had passed. Unfortunately the shells began falling very soon afterward. Six windows were hit. Of the hundreds of tiny glass fragments composing the windows, about thirty were broken. They were restored after the war and the windows are again open to the public.

The Synagogue is open for public viewing of the Chagall Windows from Sunday to Thursday 8:30am - 2:30pm; Friday and holiday eves 9:30am - 11:30pm. Admission free\*. Address: Henrietta Szold Rd., Hadassah - Ein Kerem, Jerusalem, Israel.

*Michael V. Shterenshis, M.D.  
The Hebrew University of Jerusalem*

## ***Symposium Report***

### ***36th International Congress on the History of Medicine Tunis, 6-11 September 1998***

A pleasant surprise for those attending the 36th International Congress of the History of Medicine, held in Tunis from September 6 through September 11 1998, was the visible progress being made in that country, perhaps best exemplified by the extent of construction reaching out everywhere. This, we learned, was the result of law #93 promulgated by President Zine el Abidine Ben Ali in 1996. Law #93 is providing a tremendous boost to the country's economy. In 1989 President Zine el Abidine Ben Ali replaced President Bourguiba when the latter showed signs of aging. Bourguiba is still revered as a national hero, the main boulevards and avenues being all named after him. He is ninety-five now and lives quietly in Monastir.

Most of the construction is for new hotels to accommodate a burgeoning tourist industry bringing increasing numbers of vacationers to Tunisia's beautiful beaches. They arrive by charter flights from Berlin, Paris and Rome looking for the sun, while others visit the interior in search of classical monuments. A group of retired British officers was scheduled to follow our tour to visit the battlefields of Cap Bon where they fought against the Afrika Korps.

The country's economic progress is facilitated by Tunisia being essentially free of fundamentalist constraints. Women vote and rarely wear the veil. Other religions are tolerated. The well to do and members of the upper bourgeoisie look prosperous and elegantly dressed. Wine and spirits are freely available and a thriving wine industry now figures next to more traditional occupations such as making olive oil and selling dates. Most of the building is done by hand. This provides employment for large numbers of Tunisians who are renovating the cities. Villas in the upscale suburbs of Tunis, in La Goulette, La Marsa and Sidi Bou Said are as charming as

some on the French Riviera and begging is considerably less than in other Arab countries.

Organized by Dr. Sleim Ammar, a charismatic local psychiatrist who writes in French Alexandrine verses, the 36th International Congress of the History of Medicine brought together some 360 attendees hailing from every corner of the world. The meetings took place in Gamarth, near the ancient site of Carthage of which there are few if any traces left. As one would anticipate many papers dealt with the medical and scientific contributions of Arab-Islamic medicine. A surprising number of speakers came from the Eastern bloc: Poland, Russia, Croatia with relatively few scholars from the United States. One of the advantages for those who attended the 36th International Congress of the History of Medicine was the opportunity to hear presentations by Iraklis, Libyans, Iranians and learn of their work.

Of particular interest were J. Kirkup's paper on "ShawiyaBerberSurgical Instruments" and John Riddle's paper on "Galen's Treatise On Purgatives". The Italians, French, Greeks, Israelis and the Turks also presented excellent papers but the most outstanding presentation was, probably, that presided by Gary Ferngren and Ynez O'Neill on the teaching of the History of Medicine, the result of a collaborative effort by Robin Price of the Wellcome Institute with Cynthia Pitcock of the University of Arkansas.

Dr. Pitcock's stimulating presentation on the medical history program given at the University of Arkansas was enthusiastically received. Her course is offered evenings, at the end of the fourth year and said to be well attended. How students doing various clerkships can manage to be present at evening classes and seminars was not entirely clear but certainly commendable.

Unfortunately, some of the presentations went beyond their assigned time, speakers all but ignoring their time was up. The complimentary midweek excursions to the Medina and the Bardo Museum, or alternatively to the Roman ruins of Dougga and Thuburbo Majus were interesting and well attended. Less successful was the six day pre-Congress tour which was poorly organized, taking the participants to the far-off island of Djerba and from there through long uninteresting stretches to distant locations, sometimes in sapping temperatures of 110

degrees. This could easily have been avoided by visiting, instead, the nearby legendary sites of El Jem, Kairouan, Sfax and Hamamet.

The main benefit of a congress is the opportunity for human contact, for otherwise these communications could be carried out on the net. Fortunately, the contacts provided in Tunis were very rewarding, providing a basis for mutual discovery and promising future interchanges.

*Fernando G. Vescia, M.D.*

### ***Tunisia Congress Surprise : An Ancient Jewish Necropolis***



of an early Hebrew necropolis, but this necropolis is not to be found in a list of Tunisian tourist attractions. During the Congress the necropolis was «rediscovered».

Burial of the dead was the general custom of the Jews during biblical and post-biblical times. Only in the case of need and in unusual circumstances did cremation take place. According to the Talmud, it is the religious duty of the heirs to bury

the dead. If there is no heir or the heirs are too poor to pay the cost, it is the duty of strangers to do so.

XXXVIth International Congress of the History of Medicine was held in the small resort town of Gammarth in Tunisia, 6-11 September 1998. At the French military cemetery in Gammarth lie 4000 of those killed in World War II, both Christians and Jews, in semicircular ranks along the slopes of Jebel Khawi, the Hollow Mountain. It is known that the cemetery was built on the site

At the cemetery we found one catacomb with two entrances; one cave with one entrance; and four more entrances blocked with soil. There were no ossuaries and no sarcophagi in the

opened catacomb and cave. The cave has some ceramic vessels containing human bones. There are also ventilation holes in the roofs. The architecture gives a clear indication that these were Jewish burial caves. Inside we found numerous typical niches, or recesses, carved in the rock walls. They are rectangular spaces, about 2 metres deep into the rock and 50 cm wide, often with a very typical arched top.



The Tunisian necropolis, a reminder of a once flourishing Jewish community, is very similar to, though not so impressive as, the Beth She'arim vast underground Jewish burial caves in Israel. It is known that the rich were buried in sarcophagi, whilst niches were used to bury poor members of the community. We did not investigate the closed caves of Gammarth ne-

cropolis and we therefore cannot discuss the presence or absence of sarcophagi there. The caves themselves can be dated between the Second and Fourth Century A.D. The human bones, at the first glance, are of a much later period. Perhaps the niches were used more than once.



The necropolis is closed to the public and is preserved as part of the French cemetery. Among the congress delegates Gary B. Ferngren (USA), Diana Gasparon (Belgium), Samuel Kottek and Michael V. Shterenshis (both Israel) visited the burial chambers. An interesting supplement to the sessions !

*M. V. Shterenshis, M. D.*



## **Book Review**

### ***Contagii Morborum, Idea Nova***

*(On Contagious disease, New Idea)*

Marcus Antonius Plenciz

Edited by Institute for the History of Medicine

Ljubljana University and Slovenian Microbiological Society, Ljubljana, 1998

159 pages, CIP : 579 (497.4.) :929, Price 20 US (3600 Sit)

After 236 years Slovenians got the translation of the Latin medico-historical text *Contagii Morborum, Idea Nova* into their own language. The book was written by a Slovenian doctor Marcus Antonius Plenciz (1705-1786), born in Solkan near Gorica. The work was printed in Vienna in the year 1762, and has been several times cited in books, encyclopaedias, lexicons.

Plenciz has developed his own convictions, based on Fracastoro's doctrine, that all contagious diseases are caused by living contagia (*contagium vivum*), already during his studies in Padua. This idea is present in all his discussions, together with his own conclusions that each disease is caused by a specific agent.

His discoveries obtained their true value only at the beginning of the 20th century when he was named the predecessor of modern microbiology, and at the end of this century, when he is recognized as a pioneer of chemotherapy.

The exacting translation from Latin language was well performed by Jakobina Slapar, Zvonka Z. Slavec and Stanko Banic. The get-up of the book is beautiful, from nice title page classicism and the contents of the book are revealed in the Slovenian language. Medical historians will wait the English translation for a wider diffusion of this beautiful book.

*Alfredo Musajo Somma*

### ***Mercurius et Galenus***

*Economie et taxes de médicaments dans la pharmacie du passé*

François Ledermann - Claudia Zerobin (eds.)

Société Suisse d'Histoire de la Pharmacie, Postfach 139, CH-3000 Bern 21, 1988

142 pages, Sfr 38. - ISBN 3-9520758-4-1

Le livre *Mercurius et Galenus* reprend les actes de la réunion de la Société Suisse d'Histoire de la Pharmacie, qui s'est tenue à Genève les 8 et 9 novembre 1997.

Cette séance était consacrée aux aspects économiques et administratifs des médicaments prescrits, surtout en Suisse, au cours des siècles passés. Certains travaux traitent du médicament à la fin du Moyen Age, d'autres soulignent le rôle central de l'activité des apothicaires, de leur influence sur les prix des prépara-

tions, liant ainsi le passé au présent, Ceci explique le titre de l'ouvrage.

Ce livre, très agréable à manipuler, est le recueil de textes, les uns en allemand, d'autres en français ou en anglais avec chaque fois un résumé dans l'autre langue. La présentation est bonne. Toutefois, peut-être est-il trop spécialisé pour intéresser un large public.

*Thierry Appelboom*

## ***A History of the Society of Apothecaries***

Penelope Hunting

London : Society of Apothecaries, 1998

ISBN 0 9504 9874 2. £41.25 inc. p&p. pp 312.

Professions and trades in mediaeval London were strictly controlled by guilds. In the thirteenth century the apothecaries were associated with pepperers and spicers, then with the grocers until, in 1617, The Worshipful Society of Apothecaries of London was incorporated by royal charter. This gave them autonomy, a theoretical monopoly in drugs and supervision of their trade.

This book tells the story of the Society from these early beginnings. It charts the struggle of the apothecaries to gain their independence in the self-seeking politics of the City of London, and having gained it, how the Society grew, became affluent and built its own handsome hall in Blacktriars. One of its duties was to inspect apothecaries' shops and the quality of their drugs. From this grew the realisation that the Society could produce its own, which started in a small way by growing raw ingredients in a small garden behind the Hall and by gathering them on herbarizing expeditions to the suburbs of Hampstead and Greenwich. Later the Apothecaries cultivated medicinal plants in the Physic Garden which they founded by the Thames at Chelsea in 1673. The commercial production of pharmaceutical preparations, "The Trade" as it came to be known, became increasingly important and led to the building of a manufactory at the Hall which eventually held the contract for supplying drugs to the Navy, the Army Medical Board and the East India Company. The Napoleonic and Crimean wars were particularly lucrative for the Society. Business dwindled at the close of the nineteenth century, but staggered on at a loss until its closure in 1922, unable to compete with a burgeoning pharmaceutical industry.

The other main theme of the book is the Society's squabbling with the Physicians and

Surgeons for the licensing, payment and regulation of doctors: three groups of people with a common aim but with an inability to agree. The story is told of how apothecaries came to be legally entitled both to dispense and prescribe. In 1815 the Society introduced its own examinations, so that the surgeon apothecary became the forerunner of the general practitioner. MRCS (Member of the Royal College of Surgeons) and LSA (Licentiate of the Society of Apothecaries), known colloquially as College and Hall, were their usual qualifications. Vested interests in the Royal Colleges and the growth of university degrees led to a decline in numbers of those taking the Apothecaries' licence, and almost to its extinction in the 1880's. However, the Society continues to licence doctors, but now as a member of the UEB.

The Society has adapted to the development of medical training by instituting diplomas in specialist subjects, such as Tropical Medicine and Hygiene, Regulatory Toxicology, the History of Medicine and the Philosophy of Medicine. It also teaches the latter two subjects.

This book deals with all these themes in a most informative and readable way. It contains a wealth of new material, much of it from the newly discovered archive. It is unfortunate that it was not possible to include all that has been found, but this can only act as a spur to future researchers. We now have an excellent overview of the work of this livery company, with its functions as herb grower, pharmaceutical manufacturer, medical licensing body and dining club, lightened with fascinating insights into side issues of interest, such as the Society's barge and fire brigade. The volume is well presented and beautifully illustrated. Buy one and read it, and then keep it for reference.

*John MT Ford*

***In arduis fidelis:***  
***Centenary History of the Royal Army Medical Corps 1898-1998***

John S.G. Blair

Edinburgh : Scottish Academic Press, 1998. pp xxx 544. ISBN 0 7073 0769. £25.  
BMJ Bookshop, BMA House, Tavistock Square, London WC1H 9JR (postage £3.75)

The advantage of a clearly written history of the military medicine of a corps that has seen service world wide over one hundred years is that it reveals the recorded experience of contemporary clinical practitioners. Unless the next generation reads it - as someone said elsewhere - they 'are doomed to repeat the mistakes'.

The centenary of the RAMC has given medical students, surgeons and physicians, administrators and all military men and women another chance to avoid future error by reading Colonel Blair's seminal account of the story of those who have succeeded as well as those who have failed. It is a story of diagnosis and treatment, of doctors and patients, medical officers, medical orderlies and the sick and wounded, with a word or two about generals and their like. It is a well written scientific account enlivened by anecdote.

Early in the struggle for proper recognition, the medical officer was not regarded as a proper soldier. The remarks of the Commander-in-Chief, Lord Wolseley, at the Review in Phoenix Park, Dublin were audible enough for them to be reported in the medical press: '...tell those medical people to return swords. Inform them they are only civilian attendants upon sick soldiers.' It was by the professionalism of the Army Medical Corps recounted here, that its medical officers, nurses and orderlies achieved the recognition of their vital role in war and the respect of all ranks. History must be recorded and read for it to be remembered.

The simple lesson of the delayed primary suture is a good example of a clinical skill lost by lack of reading. The lethal effects of small-arms fire has varied enormously over the past two hundred years. The injurious human consequences have depended as much on the

nature of the ground where men were hit and lay, (later modified by the surgical operative conditions and treatment skills available) as on the weapon.

In the Boer War, the received opinion was that the Mauser bullet, which Sir Frederick Treves regarded 'as a very merciful one', was perhaps less unpleasant than the older missiles; - but if so it was only very little less. Long range small arms fire, the specialty of the Boers (500-3000 yards) produced a different injury from that of shorter range (under 200 yards). Here the classical description of the large irregular exit wound, with considerable soft tissue damage behind, was first recognised. But the mortality in the wounded (8.7%) was less than that of any previous war. Colonel Blair explores the environmental contribution. Foreexample: The reason why only 20% of GSW suppurred was climate, sunshine and fresh air' aided by antiseptic technique including the use of an antiseptic first aid dressing." Although antisepsis itself was limited by the lack of suitable water. (pp74-77).

During the Boer War it was observed that a significant number of soldiers with bullet wounds of the abdomen did better without surgery. Sir Frederick Treves enlarged on the merciful Mauser bullet, which at long ranges 'passed through like a needle'. The result was that any 'hole in the gut is closed almost directly by the apposition of other coils of intestine'. An expert view from a formidable surgeon. As such advice supported avoidance of abdominal surgery, it was at that time advice to be welcomed.

Listerian principles were already being practised, but a great mortality from sepsis could still be expected from any injury requiring laparotomy, as was imperative for haemorrhage. (pp74-75)

Treves himself had been guilty of some specious ridicule over the matter of 'the exquisite ceremonial ... [which] is no part of surgery...the surgical ritualists appeal to the infallible tests of the bacteriological laboratory'. ( ref 18, p92)

On the other hand, his contemporary, Professor Alexander Ogston sought wider experience by visiting the Egyptian War of 1884-5, studying discharges from septic wounds under the microscope, and then protesting strongly against the lack of laboratory support for the military. His paper suggested that these microbes he had seen were the specific causes of wound sepsis but, like that of Lister, it was rejected by the prestigious *Lancet*. (p 87)

In the next major war of 1914-18, 'the management of wounds was subjected to constant clinical research and development', (p 170) The new antiseptic methods had helped, but more was needed. ' By 1916 the technique which remains the only safe and satisfactory one was evolved'. Wounds were 'enlarged' by removing all dead and devitalised tissue, '*debridement*'. The wound was not then immediately closed, but the skin approximated by loose stitches over a dressing. After four or so days, if the wound looked 'clean' then it could be closed.

This important clinical finding has not needed revision after the introduction of antibiotics. (It worked well in the reviewer's experience during the London 'blitz' with just soap and water.) The 8th Army Medical reports claimed it as their invention, (p 285) The generals simply had not read their service medical histories. Neither had the Royal Navy who had to learn by experience that land war conditions required different techniques from those at sea. The Royal Marine Commando Brigade suffered severe sepsis and even one case of gas gangrene following early suture. (p380) As late as the Borneo Operation (January 1963-June 1965), it was not appreciated that 'in the local conditions of the Far East "delayed primary suture" meant closure later than the standard 3rd to 5th day', (p 382) Still later, during the Gulf War, the Director of Army Surgery was disappointed to find a casualty arriving in England with his wound primarily sutured, (p 456)

Medical diseases and the importance of hygiene, the depredations of malaria and typhoid, problems of venereal disease, the need for prophylaxis as well as treatment are vividly portrayed. The British military contribution to the diagnosis and treatment of tropical diseases had a direct effect on the actual fighting in Burma. It became known as the 'Tactics of Malaria Warfare'. Because the 14th Army had better prophylactic means of reducing the incidence of malaria with the efficacious Mepacrine and the Japanese had not, it was found prudent to attack during the monsoon season, when malaria incidence was highest. It was even possible to manoeuvre the enemy into a particularly malarious area and block their quinine supply route and predict the time of onset of their fever! (p 329 )

Psychiatry is not neglected. Are you aware of the psychiatric consequences of cordite eating? This was described as a new disease by Major JW Jennings and Captain HM Morton during the Boer War. Soldiers extracted the cords from Lee-Metford cartridges to light their cigarettes and found that it affected their heads. It could be taken in one of three ways; eaten solid, boiled in water or added to beer. Delirious intoxication was followed by sleep, (p 81-2)

Other delightful snippets of information appear. Little did I realise that the phrase 'scoffing one's food' came from the soldiers' expression 'SCOFF' (Senior Catering Officer, Field Force.) It is very readable and erudite account.

John Blair is the British National Delegate of the ISHM. He took a first class degree in history after qualifying in medicine and surgery and his continuing contributions have been recognised with the unusually prestigious award of a doctorate of literature by the University of Saint Andrews. His eminence as a practising surgeon, his long service with the Territorial Army and his continuing work in teaching the history of medicine account for the excellence of this book, which has already been very well received by reviewers in the British medical press.

John Cute

***Cumulative Index:  
Proceedings of the International Society  
for the History of Medicine 1920-1996  
Communications presented at international Congresses I - XXXV  
Vasile Manoliu***

Former General Secretary of XXII International Congress, Romania, 1970

For many years, Dr V. Manoliu has been active in compiling an exhaustive, all inclusive index of the papers presented at the International Congresses of our International Society. This work is now almost complete, representing the compilation of about 5,000 entries. The cumulative index is printed in two volumes.

If you yourself or one of our former professors, or any of your friends or acquaintances has ever made one or more communication at any International Congress for the History of Medicine between 1920-1996, you can find the titles of these communications indexed in the comprehensive bibliography intended as an homage to those who have contributed to the history of medicine in the past, and as an impetus for those who continue to work actively in the field today.

The first volume will list alphabetically the names of the authors, and then in chronological order the list of communications for each author. The second volume will contain a detailed cross index by subject, biographies, and a list of presenters by country.

If you are interested in having a copy of this extensive reference guide in your personal library or that of your institution and in order to gauge interest and facilitate finding a publisher, please contact: Dr Vasile Manoliu, 1504 E. 54th Street, Savannah, GA 31404-4641, U.S.A, who is still in the process of establishing a price for these two volumes, which no doubt must in part be based on the amount of interest. Initial indications are that this work can be produced for roughly \$150.

***L'Art de guerir.  
Images de la pen see medicate a travers les temps  
Thierry Appelboom & Christine Bluard  
Fonds Mercator, Brussels, 1997, ISBN 90 6153 3945***

This elegant volume has already been reviewed in *Vesalius* in the French language, because it is written in French - which seemed a reasonable thing to do. However, as it deals with the Musee de Medecine at the Erasmus Hospital, which is the home of *Vesalius*, we thought that we should draw the attention of the Anglophones to the desirability of purchasing a copy.

It is a very handsomely illustrated survey of medical history, based on an account of the contents of the Medical Museum, which has

grown in size and content since its opening in 1994.

Do let us send you a copy at the price of £45 plus postage. You will not regret it and the study of its contents will improve your French. Then come and visit us. Just enquire at Reception in the Erasmus Hospital. It is the place for medical historians to visit in Brussels. If possible please telephone Diana Gasparon on in advance.

*John Cule*

## **Obituary**

### **Dr Benjamin Tillett Davis 1919 - 1998**

The death of Ben Davis on 22 May 1998, marks the end of an era for the history of medicine in Britain, and particularly for the city of Birmingham, where he spent the whole of his professional life, except for a short period as Senior Military Medical Officer commanding the garrison on the mid-Atlantic island of St Helena during the latter part of the Second World War. That short period was in itself formative, as it was there that he first formed his interest in medical history with a meticulous study of the death of Napoleon Bonaparte; and Ben also dealt clinically with the now-famous poliomyelitis outbreak there.

Ben was born in Birmingham, the grandson of a famous trade union leader and labour MP, Ben Tillert. There he went to school, studied medicine, became a Home Office pathologist, performing post-mortems on many famous murder victims and appearing as an expert witness at many celebrated trials. As Consultant Pathologist he held the post of Senior Lecturer in Forensic Pathology at the University of Birmingham. For many years he was also Assistant Dean and Senior Tutor in the Medical School. Many in the medical profession today can say with confidence that they passed "through Ben's hands".

Outside the cruel world of forensic pathology, Ben was an ardent researcher, collector, and brilliant and amusing lecturer in the field of the history of medicine, particularly of Birmingham, a city he loved so much. (However, this was not reflected in the number of his publications).

Ben was also a great "joiner and organiser" and whenever a new history of medicine society was started, Ben was in there, paying one of the first subscriptions and adding their tie to his past collection of neck wear.

In the history of medicine, he was founder Chairman of the University of Birmingham Society for the History of Medicine in 1972, a post he held at his death; President of the British Society for the History of Medicine in 1987-89; and also President of the Section for the History of Medicine of the Royal Society of Medicine. His achievements were also reflected outside this particular arena, with his presidency of the Birmingham Bibliographical Society (he was a keen bookbinder as well as collector), the Dugdale Society of Warwickshire, the Birmingham and Warwickshire Archaeological Society, the somewhat eccentric Buckland Society and many others.

Members of the International Society will remember his attendance at a number of our International Congresses, always ready with a comment, recollection or correction! Outside his immediate family of wife Muriel (a dentist he met when they trained together before the war) his three daughters and six grandchildren, he was, perhaps, happiest in the company of clinicians and particularly medical students. His last contribution to our work was on 18 March when he lectured on the history of medicine of Birmingham to an eager audience.

Ben was a special man, loved by all with whom he came into contact, he will be missed for his wit, humour, encouragement and knowledge. A very few days go past when, faced with a question, I do not wish that I could still ask Ben for the answer!

*Robert Arnott  
Secretary-Elect  
British Society for the History of Medicine*

## Scientific Events

### January to November 1999

#### **Exhibition "History of spinal and extradural anaesthesia"**

The Charles King Museum of the Association of Anaesthetists of Great Britain and Ireland,  
9 Bedford Square, London, WC1, U.K.

Non-members of the Association are welcome, but are asked to phone first:

Information :

#44-171 631 1650.

### 8 mai 1999

#### **Colloque international "Hippocrate et sa posterite"**

**du 7 mai au 25 juin 1999**

#### **Exposition "Au temps d'Hippocrate"**

*Musee de la Medecine, Bruxelles, Belgique*

Le programme sera envoye sur demande.

Informations :

Diana Gasparon, Musee de la Medecine  
Campus Erasme

Route de Lennik 808,  
1070 Bruxelles, Belgique

Tel.: #32-2-5553431 - Fax: #32-2-5553471

e-mail : [dgasparo@ulb.ac.be](mailto:dgasparo@ulb.ac.be)

### 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 125+ 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](mailto:reeds@openix.com)

### 20 juin 1999

#### **XIXe Reunion "Arbeitskreis Alte Medizin"**

*Mayence, Allemagne*

Les conferences porteront sur la medecine a partir du Moyen Age. Les propositions de communications ( $\pm 20$  minutes), accompagnees d'un resume, doivent parvenir avant le 1er mars 1999.

Le programme definitif sera envoye sur simple demande; il est aussi accessible par Internet: <http://www.uni-mainz.de/FB/Medizin/Medhist/medhist.htm>.

Informations :

Medizinhistorisches Institut der  
Johannes Gutenberg-Universitat,  
Am Pulverturm 13,  
D-55131 Mainz, Allemagne  
Fax: #49-6131-17 66 82  
e-mail : [kdfisch@mail.Uni-Mainz.de](mailto:kdfisch@mail.Uni-Mainz.de)

July 8-10, 1999

#### **Conference "Institutional Culture in Early Modern Europe 1550-1789"**

*London, Great Britain*

History Department King's College London

This conference will seek to apply new approaches of cultural historians to the traditional field of institutional history, looking at the ways institutions in the early modern period actually worked, and the cultural assumptions of the people involved in the system, which directly affected their operation.

Information :

Robert Frost and Anne Goldgar,  
History Department,  
King's College London, Strand,  
London WC2R 2LS, U.K.  
Fax: #44-171-873-2052  
e-mail : [robert.frost@kcl.ac.uk](mailto:robert.frost@kcl.ac.uk)

**July 7-10,1999**

The 6th biennial Conference of the Australian Society of the History of Medicine Inc.  
Faculty of Nursing, University of Sydney, Sydney, Australia

The conference Theme is "Individuals and institutions in the History of Medicine" from which five main topic areas will be highlighted:

Health, Society and Medicine at the turn of the Century

Medical History - from the viewpoint of the Historian and the Health Professional  
Medicine and Cultures

Art, Artefacts and Instruments

Public History and the History of Medicine

Information :

Conference Secretariat

ICMS Pty Ltd Locked Bag Q4002,

QVB Post Office, NSW 1230 Australia

Tel: +61 2 9290 3366 Fax: +61 2 9290 2444

E-mail : [hom@icms.com.au](mailto:hom@icms.com.au)

**September 9-11,1999**

**Biennial congress of the British society for the History of Medicine**

*Bodington Hall, University of Leeds, Great Britain*

In association with the Yorkshire Medical and Dental History Society and the Thackray Museum.

Abstracts are required by mid April 1999.

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](mailto:s.lacey@leeds.ac.uk)

**6-9octobre 1999**

**Xe Colloque International Hippocratique**

*Nice, France*

"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

**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.

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](mailto:cburns@utmb.edu)

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



## ***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 a renvoyer en double exemplaire au Secrétaire General:  
Dr Alain LELLOUCH, Hopital de Poissy, Saint-Germain-en-Laye  
20 Rue Armagis, 78105 Saint-Germain-en-Laye, France  
Tel. : # 33-1-39 27 42 97/Fax: # 33-1-39 27 42 98/e-mail; [dimsgl@wanadoo.fr](mailto:dimsgl@wanadoo.fr)***

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